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THE LARYNGOSCOPE

A MONTHLY JOURNAL DEVOTED TO DISEASES OF THE NOSE - THROAT - EAR

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THE

LARYNGOSCOPE.

VOL. III. ST. LOUIS, MO., NOVEMBER, 1897. NO. 5.

ORIGINAL COMMUNICATIONS.

REMINISCENCES OF THE INTERNATIONAL MEDICAL CONGRESS AT MOSCOW.*

BY J. W. GLEITSMANN, M.D., NEW YORK.

While endeavoring to give you a short report of my experience at the International Congress, and of the work done in our Section, I cannot do so without at least briefly referring to some features of the Congress, which, although not strictly belonging to a scientific résumé, will enable you to judge about the general management of the Congress, the efforts made by our Russian confrères to make the Congress a success, and the kindness and hospitality shown to the visitors. The impressions received in a country so entirely at variance with anything we were accustomed to see, the endeavors on the part of the Russian colleagues to make us comfortable and feel at home, were such that I cannot pass them over silently. If I should, for these reasons, curtail the report of our Section work, I offer you as an apology, that I make my remarks partly from memory and partly from abstracts distributed by the speakers, as I have taken no notes of our proceedings, which you will be able to read in better and fuller form in our special journals.

*Read before the Section of Laryngology of the New York Academy of Medicine, October 27, 1897.

The number of members at this year's International Congress was larger than at any previous one, which naturally brought some inconvenience to a number of visitors, in spite of the unceasing labors of the Reception Committee. But members who had in time addressed the Committee found, as a rule, their rooms ready for them; and besides, a large number were quartered in Moscow, as well as after the Congress in Petersburg, in the private apartments of wealthy Russian families, who had offered their residences to the Russian physicians for the use of the Congressionists during their absence from the city.

It was but natural that among the large number of members present not a few visited the Congress who contributed little or nothing to its success, but who came for social or other reasons. The next Congress being in Paris, in 1900, probably during the time of the International Exposition, I took occasion to speak about this point with several representative French physicians, and was glad to meet with a hearty reciprocal sentiment on their part. As it will be the office of the French Committee to make arrangements to this effect, I cannot anticipate their action, and will only say that it is intended to create national committees for each Section in the different countries, which committees will have a greater influence in Congress matters than heretofore.

As I do not wish to appear partial, bestowing universal praise and overlooking shortcomings, I shall mention two points, which more than others were a source of considerable dissatisfaction: The membership cards and the free passes for the Russian railroads, granted by the government, were in some instances forwarded so late to the individual members that they did not reach them in time, compelling them to travel at their own expense. Another cause for complaint was the bureau of registration, which also distributed the daily journal and the various announcements. The bureau of registration was located in the Manège, a building of large dimensions, where spacious stalls were allotted to the different Sections for members to meet. These stalls were very little used, and part of their space would better have been turned over to the registration bureau, which was, by far, not large enough to meet the demands made upon it. There was also a deplorable absence of officers speaking the languages of the different countries fluently, which difficulty was only overcome by the ever-readiness of Russian or other confrères conversant with the vernacular of the foreigner. The daily journal, giving the scientific programme of the day, the social features, events at the different institutions, etc., was not ready for distribution before 10 a. m., which caused great inconvenience, as the Section meetings

began at 9 a. m. Another drawback was the failure of publishing a list of the members who had registered, and it was impossible to learn from official sources who was present. Aside from these two points, I did not hear of any complaint worth mentioning, but many words of praise for the friendliness and universal courtesy of our Russian colleagues.

The majority of the rooms assigned to the Sections were near the Manège in the University buildings, and were spacious, well-equipped halls. The Laryngological Section was specially favored with a large, quiet room, capable of seating a much larger number of members than were present. The first session was held on the evening of August 19, when the election of officers and Vice-Presidents took place. The first scientific meeting was held the following morning, and the French referee being absent, I had the pleasure of opening the proceedings with my paper on the progress made in the treatment of laryngeal tuberculosis since the last International Congress. As the paper will appear in the *Medical Record*, and a résumé of it has been given in the *Journal of Laryngology* of this month, I shall not detain you with an extended synopsis.

I stated that, in my opinion, the treatment could be very properly divided into three chapters: the medicinal, local and surgical treatment; and mentioned under topical agents, the sulforicinate of phenol, extensively employed by Ruault, the parachlorphenol recommended by Simanowsky and Spengler, and a preparation called "Enzymol," mentioned by Murray in his paper before the last meeting of the American Laryngological Association, which is said to absorb quickly the detritus covering ulcerations, and to serve as a good auxiliary to the curette. As to the surgical treatment, I felt justified, from information received from different quarters, to say that it has found more favor during the last few years among the American profession, and is more extensively employed. After speaking about the indications and contraindications of surgical treatment, I mentioned Chappell's method of submucous injections of creosote in oily solutions and Scheppegrell's application of cupric interstitial cataphoresis, on which subject he also presented a separate and exhaustive essay.

Other contributions regarding the subject were by Botey, of Barcelona, who considered lupus cases suitable for curettement, but otherwise restricted its indications for tuberculosis. Gavino, of Mexico, finds curettement dangerous in the interior of the larynx, and a few minutes thereafter applies a strong solution (50 perc.) of peroxide of hydrogen. Przedborski spoke of the efficiency of sulforicinate of phenol, and finally, Chiari, Hajek and Moure made remarks on

curettement, recommending its use, but a careful selection of cases. It was a source of great regret to me and others that the two gentlemen present, who are the most ardent advocates of curettement, and have probably the largest experience of its intrinsic value, viz., Heryng and Krause, did not take part in the discussion.

In the afternoon Hacker, of Innsbruck, spoke of œsophagoscopy, which he demonstrated on the living subject, and showed a large series of colored drawings, representing a great variety of normal and diseased conditions.

The morning session of the second day, at which the speaker had the honor to preside, was occupied with the discussion on diagnosis and treatment of cancer of the larynx, opened by Chiari, of Vienna, and Catti, of Fiume. Whilst the latter spoke at length of the diagnostic features, Chiari confined himself to the treatment. He considers endolaryngeal operations of doubtful value, and expects the best results from laryngotomy, if only one vocal cord or ventricular band has to be removed. In such cases the respiration, as a rule, is not interfered with by the operation, the voice is preserved, and the patient is not obliged to wear a tracheal canula.

In the discussion following these essays a large number of members took part, but as not one among them mentioned the method adopted by Solis-Cohen and others, I referred to the successful case in which Solis-Cohen had sewn the trachea to the outer skin after total extirpation of the larynx, with preservation of a moderately strong voice.

The referees on Roentgen rays being absent, Dr. Hutchinson, of London, showed in the afternoon beautiful and numerous photographs made by McIntyre, of Glasgow, whose persevering and successful efforts in this line are well known.

On the third day—a Sunday—Krause, of Berlin, read his report on the etiology and treatment of the loss of the human voice. He mentioned as general causes, chlorosis, anæmia, neurotic disposition; as special causes, inability to control the vocal organ, insufficient development of the larynx, faulty teaching, and the local diseases of the mucous membrane. He was followed by Heryng and Hellat, who analyzed the manner of respiration during singing, and expressed himself in favor of the abdominal type.

On the fourth morning the Laryngological and Pediatric Sections had a joint meeting for the discussion of serum therapeutics of diphtheria, but, as I could not be present, I cannot report the proceedings. In the afternoon I showed, in the absence of Dr. French, of Brooklyn, his elaborate album, which contains not only a complete

series of photographs from the beginning to its present state of perfection, but also drawings of the different instruments, and cameras in their state of gradual development. As Dr. French had demonstrated his photographs of larynx and rhinopharynx at the October meeting of this Section a year ago, it is needless to comment on his work, with which you are familiar. With his permission I show you the album, which he kindly loaned me for this occasion.

The following morning was taken up by reports of the referees, Hajek, of Vienna, and Moure, of Bordeaux, on accessory sinus diseases, the maxillary sinus excepted. Hajek gave a very clear and complete exposé of our present knowledge of the etiology and diagnosis, laying stress on the use of the sound as the most valuable help to diagnosis in latent empyema, and Moure spoke of the treatment. Other contributions to this subject were made by Jansen, of Berlin, who is known for his radical method of operating, and by Scheier, of the same place, who investigated the presence of the sound in the frontal sinus with the aid of Roentgen rays. In five cases out of thirty the sound could be seen in the sinus, and in some cases, where he believed to have entered with the probe, the rays proved its presence in the ethmoidal cells. He also spoke of the use of the Roentgen rays for the physiology of the voice and speech, and said that with their aid the movements of the palate, the position of the hyoid bone, the epiglottis and larynx can be investigated.

At the last session on Wednesday several short papers were read, f. i., by Cozzolino, on Ozæna; by Lichtwitz, on illumination with acetylene; by Jacobson, on a new method of measuring the permeability of the nose; by Heymann, on laryngeal catarrh, etc. Before the adjournment the usual speeches were made, and on this occasion the English language was heard the first and only time in the meetings of the Section, when I spoke words of farewell to the President. All the papers were read and the discussions conducted in German or French.

The Russian hospitality, which showed itself in such a magnificent manner on this occasion, impressed me mainly to be two-fold in character: On one side, the unobtrusive, quiet, hearty reception with which one is welcomed without ceremony in the family circle, making one feel at once at home, and on the other, the lavish and gigantic arrangements on public occasions. The majority of Congressionists traveling via Varsovie to Moscow found already at the railroad stations everything prepared for them: well-cooked meals in great variety at very reasonable prices, and members of the committee attending to their wants. On arrival at Moscow we were taken in

charge by the Reception Committee, and everybody who had his room engaged could drive there without delay. The first general meeting at the large Moscow theater was a very impressive ceremony, the theater being brilliantly illuminated, and the stage transformed into a platform, filled to the utmost with delegates and representative men from all countries.

On the evening of the first day the general reception of the Congress and its guests took place in the new magazines, opposite the Kreml. They were built several years ago to replace old shops, and cover the immense area of 40,000 metres. In their halls played and sang seven different bands and choirs, and the corridors and galleries were large enough to accommodate and to regale the 10,000 persons present. The next evening the Section was invited by its President and Secretary to a most sumptuous dinner at one of the fashionable parks of Moscow. One of the peculiarities of public dinners in Russia is the so-called Zakucka, a cold lunch, served in a separate room before the dinner and consisting of a great variety of smoked fish, in which Russia excels, the famous fresh caviar, and a large array of appetizing dishes, to be consumed with different beverages. This intended appetizer is then followed by a regular dinner. There was, further, a concert and ball in the club of the nobility; a reception by the Moscow physicians in another large park; a Section dinner; besides, other affairs which I could not attend. After the adjournment of the Congress the majority of the members went to St. Petersburg, where we were equally well received and taken care of. The most enjoyable reunion was the dinner given by the St. Petersburg laryngologists and otologists to their colleagues. An invitation by the Czar to Péterhof was extended to the delegates and Vice-Presidents, who were conducted there on Imperial vessels, invited to a sumptuous lunch, and driven in Court carriages through the park and shown the different castles. It would occupy too much time to tell you about Russian life, the cities, so foreign and peculiar in character, the medical institutions, etc. But of the latter I must mention two, of which no better in their line can be found anywhere, viz.: the Institute for Experimental Medicine in St. Petersburg, and the Otological Clinic of Dr. von Stein in Moscow. The latter is built in the large quarter, where all the clinics of the University are located, and owes its existence to the large donation of 800,000 rubles given by Mrs. Bazanova. The medical life at all these University clinics is very active; and I also saw at the Laryngological Clinic of Professor Simanowsky in St. Petersburg all the modern appliances and instruments we are accustomed to see in good European and American institutions.

In conclusion let me say that, aside from the satisfaction and pleasure derived from the scientific meetings and the social entertainments, I shall always cherish the memory of having seen the City of Moscow, with the Kreml, and its 450 churches and their golden cupolas, of which the Church of the Savior is the just pride of the city, and St. Petersburg, with its many palaces, and the Isaac's Church, with its columns of lapis lazuli and malachite—a memory which more than compensates for the fatigue of the long journey.

SOME FORMS OF CATARRH AND THEIR CURE.

BY FAYETTE C. EWING, M.D., ST. LOUIS.

Fellow of the British Rhinological, Laryngological and Otological Association; Laryngologist to the City Hospital; Laryngologist to the Missouri Baptist Sanitarium and Surgeon-in-Chief to the Out-Door Department for Diseases of the Throat, Nose and Ear; Aurist to M. E. Home, Etc.

The general practitioner is wont to declare, "You can't cure catarrh," yet this is but an abbreviated phrase that expresses a fraction of truth. Did he affirm, "You can't cure some cases of catarrh with local applications," he would tell the whole truth, and nothing but the truth, and the honest rhinologist, who can see further than his nose, would be compelled to acquiesce. Nevertheless, we unhesitatingly pronounce most cases of catarrh curable, but with many of them local medication of the inflamed area forms an insignificant part of the treatment. There is a principle in therapeutics as old as the hills, and quite as discernible to him who can focus facts behind his retina, that to cure disease you must *remove the cause.* But as many see the mountain in front and miss the sheen of the sunset beyond, so physicians persist in treating the palpable effect, and are blind to the obvious cause.

Nasal obstruction means nasal catarrh; it may not be to-day, but must be to-morrow. The local irritation, interference with drainage and rarefaction of air in the post-nasal chamber, insure a pathologic sequel. Spray and applications avail us nothing, while obstruction remains. Water will not wash away a wart, nor is it easier to press in place the deflected bony or cartilaginous septum with astringent

douche, or blow it back with cloud of medicinal dust. Unguents may undermine scabs but they cannot disintegrate osteoma nor soften enchondroma. And he who goes contrary to the rule of cause and effect seeks to dislodge the foundation stone of rational medicine. It is not uncommon to see perfectly healthy persons victims of an irritant catarrh, since the physical defects that supply the cause are often congenital or the result of traumatism. In such cases when we remove the cause nature does the rest. The density of the air in the post-nasal chamber is restored, proper drainage is secured, the Schneiderian membrane becomes healthy, and function returns. Respired air is washed of germ and sifted of dust, and the necessary humidity maintained. The patient being healthy, not in part but in *whole*, by inviolable law, must get well, for the perfectly healthy body cannot maintain local disease without a local irritant. With untied hands nature never stands still, nor does she need a medicated excuse to do her duty. So we say, such catarrhs can be cured; not only cured, but from them we secure our most brilliant results. Dealing with them we may "throw physic to the dogs," with knife and saw we do our work, *sans peur et sans reproche.*

Far be it from our purpose to advocate operative procedure in all cases of catarrh. It is when we have obstruction dissociated from diathesis, and disease dependent upon obstruction, that we would employ the knife. The possible restoration or establishment of the normal relationship between septum and turbinal is the one indication for operation. The nasal passages of different individuals vary greatly in size, according to the shape and dimensions of the organ. There are noses so roomy that quite prominent projections occasion no interference with the volume of air. In extreme cases they serve rather a useful purpose in reducing the dimensions of an abnormal cavity, thereby facilitating the physiological function of the turbinals. When we have to contend with

DIATHESIS,

as a factor in the production of catarrh, mindful of one law, let us attempt no patchwork therapeutics, but seek to build up a body. It is here that the graduated specialist fails in results. He is essentially a localist, and works through organ and not through system. No matter what his academic training, it does not conduce to the broader view. He is handicapped by time. "Rome was not built in a day," and the specialist should be made, not created. Of diathesis, we may say, some are born with it, and some achieve it, but, however it may be acquired, it is not to be eliminated in a week nor a month by any hocus-pocus of medication nor antagonism of drugs. Not by the

treatment of one organ, but the entire body; nor with one therapic resource, but many may we expect to eliminate the numerous influences that have conspired to produce a dyscrasia. Through a slow eutrophic process we effect our change that is not to be the temporary good feeling of the time, but the lasting accompaniment of renewed vitality. The conditions resultant from the catarrhal diathesis are many, their manifestations protean. It may be simple intumescent rhinitis, the plugged rhino-pharynx of adenoids, the hypertrophied tonsils, the gelatinous polyp. Or, the catarrhal tendency may dive deeper and show itself in laryngeal cough, trachial and bronchial discharge, the dreaded "winter cough," or worse, a vesicular catarrh, to end in disintegration. Not content with smiting the respiratory tract in spot and throughout, the hydra-headed guest takes another turn and there is gastric catarrh. Step further and the intestines are involved. Through auto-inoculation, gastro-intestinal catarrh, by deranging the general system, may be responsible for, and perpetuate inflammation in the nose, pharynx and larynx, and in a multiplicity of organic disturbance disease of one organ "fans another's fire." Who ever saw the simple nasal or pharyngeal catarrh of the confirmed dyspeptic get well and stay well with the gastric condition unchanged? We constringe and cauterize the intumescent turbinal, but the swelling returns; we ablate tonsils, and curette adenoids, but laryngo-pharyngeal hyperæmia blooms to plague us. Finally, the consumptive ghost, whom it may be our unthanked office to "lay," stalks in. By such methods we have eradicated nothing but confidence. All the chronic acid in Christendom can't cure catarrh dependent upon constitutional depravity. True, we may burn until only unresponsive and non-weeping cicatricial tissue is left, but in such event, like true allopaths, we have merely substituted one condition for another. And, in our generosity, we have given more than we took. It is in such cases that the physician needs his nerve, nerve for that candor which can contemplate a probable loss of fee. But there need be no misgivings. It pays to tell these patients the truth—truth that acknowledges no specific—to hoist the signboard that points no royal road to health. He who is master of the system, who is not mentally myopic, will invoke the aid of

HYGIENE,

as of first importance in this doctrine of physical regeneration. To undo the diathesis is the mission of all remedies. If this be not altogether possible, we can, at least, modify it. The accomplishment of either result may mean the repression of natural taste, the

curtailment of appetite, the renouncement of habit, abundant self-denial, the giving up of vocation, or even removal to another clime. Environment, occupation, exercise, food, clothing, sleep, rest and habit must be carefully considered. The many little drains upon the body's vitality must be unsparingly condemned if they conflict with our purpose. Ours is an animal economy, and animals are not bred in cages. We need exercise, not the exercise that develops one organ while the others are quiescent, but the fuel that puts every wheel and cog and band in motion. One secret of the Englishman's superior physique is his regard for athletics and outdoor sport and life. Nor do I mean the distorted vision that exalts college gymnastics into academic honor, but the common sense that regards the healthy body as an indispensable requisite to happiness and good mental and physical work. There has been a notable increase in the size of New York young women during the last decade, brought about through the promotion of athletics, notably rowing and tennis. The tennis court, rowing, hill-climbing, the bicycle (with limitations), the Country Club, are blessings to the urban resident, and should receive all encouragement from the city physicians. Gymnasiums confine and necessitate the breathing of vitiated air. For these reasons, and the fact that they do not supply the mental exhilaration of "green fields and pastures new," they can never take the place of exercise in the great open.

Nothing contributes more to bodily resistance of cold, and is more tonic in its effect, than the cold bath. Of course, some there are who cannot take it by plunge, but they may receive a like benefit from sponging. The system is made tolerant of draughts, and sudden exposure by teaching the arterioles to expand and contract, and the vigorous toweling restores warmth. Very delicate persons may take the sponge bath; the delay in its accomplishment is so little that the muscular movement precludes the possibility of catching cold.

Food is a most important consideration. The flabby, phlegmatic epicure should be put upon short rations until he has reached a dietary that he can assimilate. The candy-eating child must be encouraged to a healthier appetite. Stimulants, so-called foods, and warmth producers, have no place in our therapy. They spur a jaded steed. Their rejuvenation of an hour is the depression of a day. More neurasthenics there are from idleness than work. The *dolce far niente* maid or matron, groaning and growling under a weary life in a palace of luxury, must be given mental and physical occupation to stimulate sluggish organic function. The underground clerk

will find the quitting of his vocation a prerequisite to cure. Thus must we strike at the parasites of health, for only by so doing can we achieve success. Of

MEDICINES,

There are few to aid us, but the few are of great value when judiciously selected and wisely administered. Drugs that are worthy adjuvants to hygiene may accomplish nothing, alone. This is in harmony with the keynote of this article. We require shot, not bullets, to bag our game. No drug that works with quick effect is more than a stimulant or palliative. Only those which, through the slow process of eutrophia, promoting excretion, elimination and nutrition by increasing organic functioning are of any continued benefit. We pour in iron and it lands in the liver, or passes unassimilated through the intestinal canal. Pepsin and the digestive aids are about as efficient as sugar of milk.

Most tonics are mere stomach congesters. They make the patient "feel good," but do not promote metabolic equilibrium. Frequently, it is not even this, but the mental effect of suggestion. Several months of astringent, antiseptic cleanliness may be sufficient to convince the expectant patient that he has received his money's worth, but too soon for our reputation his symptoms return. We have exchanged respect for dollars, and in time our more candid but less "promising" neighbor may win both. The only drugs we can depend upon in catarrhs, resulting from organic sluggishness, are

ALTERATIVES.

Of the subtlety of their beneficent action we know practically nothing. For one scientific satisfaction we might wish to, but for our utilitarian purpose it is unnecessary. Empiricism cannot always be rejected. Wood, a great scientist, long ago sought to impress upon the profession the avoidance of that narrowness that demands the whys and wherefores in the treatment of disease. Alteratives, by increasing nutrition and the constructive metamorphosis, eliminate disease from the tissues. Those that we may most rely upon are mercury, gold, arsenic and iodine. The remarkable results attained by the use of arsenic in certain anæmic, and the great benefit from iodine in catarrho-scrofulous conditions, are so well known to laryngologists and physicians generally that their discussion need not be elaborate. Keyes first pointed out the potency of mercuric chloride in minute doses as a tonic in the several anæmias. Nor was it necessary that the profession should be afflicted with Keeleyism for the demonstration of the exceptional catalytic influence of gold. That advanced scientist, Barthalow, was wont to dilate upon its

value in his medical lectures two decades ago, and it was then that the writer had his attention first directed to it. The following combination, known as the "4 C's," that has become so popular with the profession in certain anæmias, owes its efficiency largely, if not entirely, to the mercuric chloride and arsenic it contains:

℞ Arsenici chloridi ..... gr. j.
Ammonii chloridi ..... ʒij.
Tinct. Ferri chloridi ..... ʒiv.
Hydrarg. bichloridi ..... gr. jss.
Syrupi ..... ʒiij.
Aquae ad. ..... ʒvi.

M. Sig: ʒi, 4 times daily.

Two years ago there was brought to the writer's attention what he considers a better combination of almost the same remedies. Because of his experience with the above formula he was induced to prescribe arsenauro and mercauro. The increased efficiency is doubtless due to the gold they contain. These remedies commend themselves additionally by their elegance. In these days of refined pharmacy and æsthetic taste it is no enviable reputation to possess that of the nauseous doser. We are compelled to humor both optic and gurlatory nerve. Arsenauro and mercauro are beautiful to the eye and almost tasteless. They are given in doses of from five to thirty drops, the average patient taking about fifteen. Like all true alteratives their effect may be, and generally is, slow. They do not serve the purpose of saloonish medication. The introducers of these preparations make no claim to quick effects. The alteration of the conditions they are to reach cannot be effected except by slow processes —mercauro is indicated where there is liver torpidity, and arsenauro in cases where we have more of the neurotic element in evidence.

And so, in summing up our position with respect to the permanent cure of catarrh, we say seek the cause, nor mistake a symptom for the basic trouble. If the local disease is the result of obstruction, remove it; if the effect of faulty bodily habit, regulate life; if a simple manifestation of physical depravity, eliminate the dyscrasia.

Keeping to these ideas as our cardinal principles we may fail—and surely will with some—but we will have the satisfaction of knowing that no successor will succeed, to our chagrin.

Grand and Lindell Boulevards.

A CASE OF TRUE PAPILLOMA OF THE NASAL SEPTUM.

H. ARROWSMITH, M.D., BROOKLYN, N. Y.

H. P., a boy six years of age, of Swedish parentage, was referred to me by his attending physician, having for several weeks been troubled with repeated though slight attacks of epistaxis, his only other symptom being a moderate amount of obstruction to nasal respiration.

The family and previous personal histories were entirely negative. On examination of the nose, a growth was seen in the left nostril, about the size of an ordinary shoe-button, which presented the typical

FIGURE 1.—Sketch of microscopic section. Drawn with camera lucida and Zeiss "A" objective.

"cauliflower" appearance of papilloma. It was attached by a pedicle one-quarter of an inch in length, to about the middle of the cartilaginous septum, five-eighths of an inch posterior to the columna.

The growth was easily removed with the cold snare, and its point of origin was touched with the galvano-cautery. Seven months later there was no indication of recurrence. A moderate amount of adenoid tissue was present in the naso-pharynx, removal of which was advised but declined by the child's parents.

The specimen was submitted to Dr. Jonathan Wright for examination, and was pronounced by him a "Typical Papilloma, consisting almost entirely of squamous epithelium arranged in layers, with papillæ formation; the superficial layers being stratified and corneous. 'Stickle-cells' were discernible with a $^{1}/_{12}$ O. I."

Interest attaches to this case because of the rarity of true papillomata of the nasal mucous membrane. It seems to be the only recorded instance of such an observation in so young a subject.

In a paper, read before the American Laryngological Association in 1891 (1, 2), Wright reviews the literature of nasal papillomata and calls attention to the very loose way in which the term has been applied. He also describes the anatomical points of difference between true papillomata and what he denominates papillary hypertrophies, under which name he declares that most of the hitherto so-called nasal papillomata should have been classed.

More recently, Dickerman has reported a case of his own and has again reviewed the already collected observations (3).

Mackenzie stated that he had met with five cases of what he considered true nasal papilloma (4).

Bosworth speaks of having seen one probable case among 200 patients with nasal new growths (5).

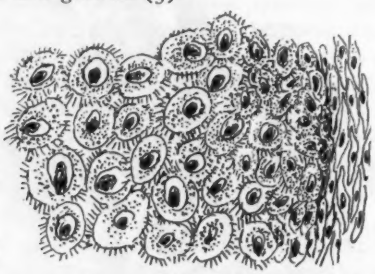

FIGURE 2.—Microscopic section Zeiss 1/12 objective.

Wright has reported one case of his own, since his paper of 1891, when he enumerated, altogether, seventeen cases which had been described up to that time (6).

A case of true papilloma was shown before the London Laryngological Society in 1894, by De Santi (7).

Weil reported, at the May, 1895, meeting of the Vienna Laryngological Society, a growth removed from the septum of a woman, aged 67, which was examined by Zuckerkandl and pronounced a true papilloma (8).

Baber, at the December, 1895, meeting of the London Laryngological Society, presented a specimen removed from a man, aged 36, and in the discussion it was stated that including the case in point, up to that time, but three true papillomata of the nose had come before the society (9).

Hunter Mackenzie describes a case of general diffuse true papillomatous degeneration of the nasal mucous membrane (10).

Ripault has reported a case of "Confluent Papilloma of the Nose (11).

Zarniko, at the 67th Congress of German Naturalists and Physicians, in commenting on a case of his own, stated that it was the tenth known instance of true hard papilloma of the nose (12).

A. L. Turner describes a nasal papilloma removed by external operation (13).

In the Journal of Laryngology, etc., there is a bare mention of a paper by Borroz, of Barcelona, entitled: "Notes on a Case of Papilloma of the Right Nasal Fossa, with Histological Changes," without description or further reference (14).

Hellmann, of Wurzburg, reports at length and with great minuteness of detail a case of papilloma of the nose and frontal sinuses, which recurred many times and eventually assumed the characteristics of carcinoma, ending fatally after a duration of nine years (15).

Altogether, therefore, including the case here reported, there seem to be in literature but 29 instances of true papilloma of the nose and even in some of these cases the diagnosis is apparently by no means definite.

32 Schermerhorn Street.

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SPASMODIC NASAL STENOSIS, WITH SPECIAL REFERENCE TO A NEW NASAL TUBE.

BY AUGUST W. RINGER, M.D., CINCINNATI.

The active man in the practice of medicine is sooner or later confronted with cases of a chronic character, which no manner of medication seems to control in any great degree, and yet one is reluctant to acknowledge symptomatic therapeutics unsatisfactory.

The special student of rhinology is convinced at an early period in his studies that we have here frequently located a pathological state which, without doubt, affects the whole body. To illustrate the point, I will mention the case of a man, æt. 25 years, who for about two months suffered from diarrhœa and palpitation of the heart, alternately, and over which apparent intelligent medication seemed to have control only in a minor degree. During the end of the second and beginning of the third month the following symptoms were superadded in rapid succession, viz.: Cough, dyspnea, hemoptysis, loss of appetite, loss of sleep and asthenia. It is not often that I have seen so many symptoms due to one cause as in this case, as all of the above mentioned symptoms were present in a severe degree at the same time during part of the third month. Examination of the nasal passages in this case disclosed an osseous tumor, whose origin was the side of the nasal chamber, causing pressure upon the septum, probably in the course of the naso-palative nerve. The daily application of strong carbolic acid, limited to the apex of the tumor, relieved *all* of the symptoms within two weeks and brought about, without further medication, a renewal of strength and vigor.

It is not my object to call attention to tumors, but to a condition not infrequently met with in adults—*i. e.*, so-called nasal stenosis. The causes of stenosis may be divided into four groups: 1, deviated cartilaginous septum; 2, spasm; 3, growth, and 4, deviated osseous septum. It is the second class, stenosis caused by spasm, to which I wish to call attention. There are no pathognomonic symptoms. Chronic affections of the stomach and disease of the heart, besides other reflex symptoms are, in the patient's estimation, of more importance than a more or less obstructed breathing upon one side. These symptoms when found should call our attention to the nasal passages.

It is hardly possible that an examiner would mistake deflection of the septum or growths for a stenosis due to a spasm. The stenosis is generally unilateral. Upon raising the alæ with a speculum or thumb we find, on inspection, nearly on a level with the front of the maxillary bone, a slit-like opening—the osteum narium internus anterior is conspicuously discernable in this affection—this slit-like opening admits of the passage of a nasal dilator on its introduction to the post-nasal space; however, after the removal of the dilator the passage quickly resumes its former apppearance. By decided spraying for a few days, oil of vaseline being the best medicament, including the use of the dilator, we finally succeed in inspecting the passage. The opening is much smaller, tubular in character, and

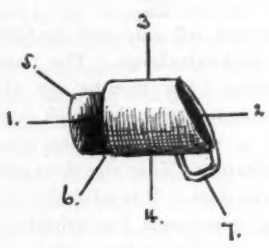

FIGURE 1. NASAL TUBE.

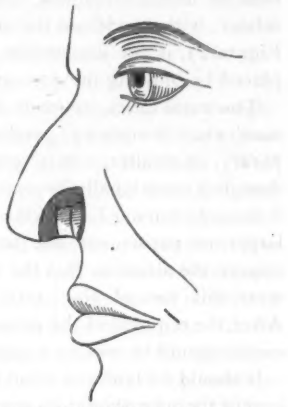

FIGURE 2. NASAL TUBE IN POSITION.

EXPLANATION TO FIG. 1.

1. Foramen anterior.
2. Foramen posterior.
3. Superior or part facing the nasal roof.
4. Inferior or part facing the nasal floor and upon which the nasal tube rests.
5. Septal or greater wing, a part contiguous to the cartilaginous septum.
6. External or lesser wing.
7. The annulus is placed at the inferior, near the posterior angle.

has not the configuration of the normal passage, and the turbinated bones are nowhere visible on anterior inspection.

The prognosis is based altogether upon the character of the chronic inflammation and amount of hyperplasia, from which latter the spasmodic stenosis results. Not only, when not correctly interpreted, may the inflammation prove a fruitful source for a long invalidism, but also, when uncared for, there may be engendered a condition which frequently is the direct cause of many of the reflex troubles found in this class of patients. I believe that many of these reflex

troubles are extremely dangerous to life and think that many sudden deaths should properly be credited to this trouble.

The treatment of the chronically inflamed membrane is that which is generally in use by all specialists, so that the management of the stenosis need only be referred to. For this I use a gold nasal tube which I have found very satisfactory and which gives great comfort to the wearer in this class of cases.

After the dilators have been used to such an extent that the tube can be introduced, we then have, in addition to the action of the tube as a dilator, a tube for breathing. The tube is easily introduced and removed by the aid of the ordinary splinter forceps, and at times by the finger alone. Should, at any time, the tube meet with obstruction on introduction this can readily be overcome by the ordinary dilator, with or without the oil spray. The tube, when in place (see Figure 2), is not discernible from the exterior and is not easily displaced by blowing the nose or hawking.

The nasal tubes are made for the right and left side and in four sizes, viz.: temporary, permanent, large and extra large. The temporary, or smaller, one is very convenient for a few months' use, although it occasionally becomes clogged with secretion, in which case it is easily removed and cleaned. After a variable time the next larger, or permanent, one may be substituted. This size does not require the attention that the temporary one does. It is advisable to wear this second size until the existing hyperæmia has subsided. After the removal of the permanent size, any relapse, from whatever cause, should be met by a reintroduction of the tube.

It should be borne in mind that to derive the maximum amount of benefit the tube should be made to fit the nose and not the nose the tube. There will, at times, be cases wherein, at the superior posterior angle, the lumen of the tube will be found too great; this, when present, will cause more or less irritation to the eye or that side.

To overcome this defect, bring the sides of the tube together for about the distance of two or three lines, just sufficient to overcome all unequal pressure. In case the septal wing causes pressure upon the septum this may be overcome by curving inwards, towards the lumen of the tube, a small part of the antero-inferiorangle.

The tube was made for me by Mr. Frank Rehbaum, 40 Clybourn avenue, Chicago.

1633 Freeman avenue.

EXPERIMENTAL WORK ON THE PENETRABILITY OF VAPORIZED MEDICAMENTS INTO THE AIR PASSAGES.*

BY HOMER M. THOMAS, A.M., M.D.,

Fellow Chicago Academy Medicine; Consulting Laryngolist Home Crippled Children; Consulting Physician Nose, Ear and Throat Diseases, Mary Thompson Hospital.

HISTORY OF THE USE OF INHALATION.

Hippocrates was the first to devise a simple apparatus for the purpose of inhalation. In the seventeenth century Bennett recommended inhalation for consumption. Infusions of aromatic herbs (Halitas) or even balsamic vapors (Suffitus) were used. The discovery of oxygen revived new trials in this line. It was finally abandoned, as that air contained but little oxygen, and it was thought the atmosphere would have a more beneficial effect. Some hydrogen, nitrogen and even carbonic acid were used by Beddocs. Well remembered is the recommendation to physicians of that time, and even to the present, to inhale the air of stables containing cattle. About 1820, chlorine and iodine were tried with favorable effect; also turpentine vapors in chronic bronchitis. Muriate of ammonia vapors, the steam of escaping sulphur springs, the salty air in salt mines and the smoke of Datura Stramonium furnish further examples. A decided step forward was made by the improvement of the technique in vapor productions; especially the possibility to break up mechanically the fluids in finest globules after having dissolved the medicaments. In 1858, Sales-Girons introduced the first transportable apparatus for the vaporization of medicaments, to the Academy of Science in Paris. The new method soon found enthusiastic adherents as well as bitter foes. The chief query was, how deep does the fluid enter the lungs? By experiments on animals and on men, by chemical examinations of sputa, by the laryngoscope, by inhalation of stained fluids, it was proven with absolute certainty by the friends of this method that it is possible that medicamentous fluids enter the finest bronchi and alveoli. The penetration into the alveoli of the corpuscular elements, coal dust, etc., by inhalation, was further proven. Peroxide of iron was found as a pigment in the lungs of miners, by Zenker.

*Original abstract of paper read at Mississippi Valley Medical Association, Louisville, Oct. 6, 1897. Complete paper will appear in *Journal American Medical Association.*

The various anatomical examinations of diseases introduced from inhalations due to industrial pursuits, as anthracosis, calcicosis (Zenker), and researches of Leon, Hirt, Steubner, G. Merkel, E. Wagner, Arnold, leave no doubt of the penetrability of lung tissue by fluids or corpuscles by inhalation. The logic of a possibility for a local therapy of the lungs seemed evident, and all available medicaments were tried, but critical observations and experiments soon limited the possibility of this method.

Dr. Adolph Schmid (Reichenhall) says, inhalation therapy cannot be regarded as a curative means; it has to play the more modest role as a supporting means to the other methods of treatment. It likely is able to influence diseases of the respiratory passages by modifying various symptoms. Within these limits it must be considered as a method to be employed with good reason, and difficult to do without.

J. Schreiber, in 1888, by pains-taking experiments, gave a fair explanation of the influence inhalation had on diseases of the lungs. He contends that finely pulverized particles may enter into diseased lungs through the bronchi and even into the alveoli; that in order to produce the application to the lungs in this way we must have a combination of pressure and aspiration effect. The pressure effect at the entrance of the respiratory passages must be felt equally at all portions of the lungs. In practice it has been assumed that aspiration is equal in both healthy and diseased portions of the lung; it is not remembered that there must be a difference. If the lungs have lost elasticity, so that new air no longer enters, it follows that substances mixed with air will not enter. The diseased processes which so lessen the elasticity are not sufficiently taught. It has been found that healthy animals exposed to air loaded with coal dust, the larger and smaller bronchi were reached in fifteen minutes; that animals with diseases of the lungs, as bronchitis, miliary tuberculosis, substances mixed with atmospheric air enter in even greater quantities than in healthy animals. But the distribution of substances is very uneven and differs to a surprising degree; for while coal dust can be seen in clumps in healthy lungs, nothing whatever appears in diseased foci. This general law applies not only for infiltrations and scars (that is, where there can be no air) but also for processes accompanied by ulcerated foci and cavities.

In an abscess wall, coal dust was not demonstrable, yet at the same time with equal constancy the coal dust was equally distributed in the healthy lung. In a number of rabbits two drops of oil of turpentine were, by a parenchymatous injection, introduced into the right lung; there was established an inflammatory process attended with a fibrin-

ous exudate; the rabbits were all exposed to coal dust atmosphere with the result that in the injected lung no coal dust entered while in the healthy lung it did. There was doubtless an anatomical process which made it impossible to respire coal dust in the one lung but with easy facility in the other. It was found, however, when the injections were made into both lungs that the coal dust entered into both.

The result of these experiments demonstrates the fallacy of the assumption that the aspiration strength of the lung is identical for air and for bodies mixed with air. They show also that corpuscular bodies in the air do enter into diseased lungs and even under certain circumstances more abundantly than in healthy lungs. This phenomena may be explained from the fact that the aspiration strength of the diseased foci is decreased; in healthy foci increased, hence less resistance in healthy than diseased lung. If the anatomical process is only unilateral, then inhalation is negative; if bilateral, aspiration strength is even, and bodies mixed with air do enter.

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Do vapors act locally? The pathological processes in which vapors are used are associated with alterations in the respiratory mechanism and vital capacity of the lungs.

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One difficulty which has appeared to lie in the way of the thorough application of drugs to affected air passages has been in the unsatisfactory action, and hence imperfect construction, of the various atomizing inhalers furnished the profession. These instruments have either been too delicate in construction to permit the use of sufficient pressure to make possible a deep penetration of the vaporized medicament into the air passages, or became so easily clogged up with the medicament used as to create great annoyance in their use.

The instrument which I present to you is the result of some little time and effort spent in striving to secure an atomizing vaporizer which would overcome the objections mentioned and make it useful for the purpose desired. It consists of a heavy glass bottle, ten inches in length and twelve inches in circumference at its widest portion, narrowing at the top to a circumference of three and one-half inches. The bottle part is of very heavy glass and is tested to withstand a pressure of one hundred pounds to the square inch. The atomized vapor is produced through a tube of German silver, heavily nickle-plated, which is nine inches in length. Three inches from the lower end are two tubes, the ends of which approximate to within one-eighth of an inch of each other. The opening of the inner tube

is one-third of that of the outer tube, which is one-half inch in circumference. When in use, the motive power being compressed air, varying in pressure from five to fifteen pounds to the square inch, enters the main tube and two-thirds of it is ejected at the mouth of the inner tube, the remaining one-third passing down into the medicinal menstrum, from which it assists in forcing a solid column of the medicament to the mouth of the outer tube. The whole mass is then projected in an atomized form against the inner side of the bottle near the top, from whence it falls in rivulets to the bottom of the bottle, the residue escaping from the top through an outlet opening,

FIGURE 1.—Atomizing Vaporizer.

in the form of a very fine smoke-like vapor. A screw cap, within which is a screw-thread three-quarters of an inch in length, securely anchors the top to the bottle. I have found this instrument to be strong, durable, easily cleaned and perfectly antiseptic, and to meet the requirements of this special form of medication.

I have now to report my own series of experiments:

Experiment 1.—A kitten was placed in a plain box 21 inches in length, 11 inches in width, 12 inches in height, with dove-tail seams; a one-half inch hole, two inches from the bottom, was made for the entrance of vapor and a similar hole at the top for vapor exit. The vapor used consisted of 5 per cent pure iodine in a two ounce solution of lavoline. Compressed air, nine pounds to the square inch, produced the vapor in the inhaler. Vapor was introduced continuously for twenty minutes. The kitten was then removed and immediately killed by an injection of sixty minimums of 3 per cent solution of prussic acid, per rectum. The respiratory tract was dis-

sected out and the starch test, for the presence of iodine, was applied to the air passages. Iodine was found present in the mucus from the mouth, on the tongue, in the pharynx and larynx; a typical iodine reaction was obtained the entire length of the trachea to just below the bifurcation to the bronchial tubes; a slight iodine reaction was found in the upper part of the larger bronchi.

Experiment 2.—Animal used, a kitten. A 10 per cent solution of the tri-chloride of iron in lavoline was evaporized in the box for twenty minutes. The kitten was then killed by a 3 per cent solution of prussic acid introduced per rectum. A solution of ammonia sulpho-cyanide was then used to determine the presence of iron salts. Result: A marked reaction in the mouth, tongue, pharynx and larynx. No test visible on the epiglottis, trachea, bronchi or air cells.

Experiment 3.—Animal used, a ten-pound dog. A $7\frac{1}{2}$ per cent solution of pure iodine in blandine introduced into the box for twenty minutes. During this time the dog was much excited and made strenuous efforts to escape from the box; as a consequence his respiratory efforts were greatly accelerated. At the end of twenty minutes the dog was killed with a 3 per cent solution of prussic acid, per rectum, and the starch solution used upon the air passages to determine the existence of iodine. Result: There was a hyper-secretion of mucus which, tested with starch, showed the existence of iodine on the tongue, pharynx, larynx, trachea, larger bronchial tubes down to the medium-sized bronchial tubes. A microscopical examination of the mucus was found to contain iodine. There was also found iodine extending as far down as the openings of the smaller bronchial tubes. This experiment positively demonstrated that the starch test solution was colored by iodine to the mouths of the smaller bronchial tubes. There was no evidence of iodine in the pulmonary alveoli.

In the succeeding experiments a box of the following dimensions was used: $27\frac{3}{4}$ inches long, $18\frac{3}{4}$ inches high, 12 inches wide, inside measurements. Capacity of box equals $6243\frac{3}{4}$ cubic inches. A one-fourth inch opening was made in the middle of the top of the box for the entrance of vapor, and a half-inch opening two inches from the bottom for vapor exit.

Experiment 4.—Animal used, a guinea pig. Medicaments used, a 20 per cent solution of iodine in lavoline. Time, one hour. It is necessary to use the saturated solution because the iodine combines with the oil. A thirty-drop solution of prussic acid, per rectum, was used to kill the pig. A teased specimen from the lungs was made and iodine found to the openings of the minute bronchial tubes. The objection to the teasing method is that no positive air vesicle can

be gotten into the microscopic field. For although epithelial cells covered with iodine may be found, yet it is possible they may have come from the epithelium of minute broncheoles. This experiment positively demonstrated the existence of iodine in the second subdivision of the bronchial tubes.

Experiment 5.—Animal used, a guinea pig. Time, two hours. Mixture used, a 10 per cent solution silver nitrate in glycerine and water. Pig killed with prussic acid, per rectum. Result: Grossly the lungs had a silver metallic lustre. Microscopic sections revealed metallic pigmentations. Paraffin sections showed pigment very beautifully surroundiug air vesicles. (NOTE.—The guinea pigs upon which the foregoing experiments were made came from a laboratory of the City Hall and were kindly furnished by Dr. Adolph Gehrmann. As is doubtless well known, the air in the City Hall is far from being pure; is contaminated with sewer gas and carbon.)

Experiment 6.—Animal used, a guinea pig, taken from the City Hall. Killed by prussic acid, per rectum, without exposure to any vapor. Purpose, to make a microscopical test of the appearance in the lungs of a guinea pig which had and which had not been subjected to a vaporized medicament. Result: I was much surprised to observe that the appearance in the lungs of the vaporized and unvaporized pig were almost identically the same. Alveolar pigmentation was present in both lungs and appeared much the same. Query: Do not all guinea pigs have their alveoli pigmented? A general inquiry among my professional friends revealed a dense ignorance on this point. Being unable to satisfactorily clear up this vital point in vapor experimentation, I decided to secure a guinea pig from a source where the air was pure. Accordingly, Mr. E. R. Gibbs, of Norwalk, O., was communicated with and requested to send the lungs of a pig which had breathed an air of unquestionable purity. Mr. Gibbs killed a pig from his farm with chloroform, immediately dissected out the lungs and expressed them to me. A microscopical examination of the air vesicles showed that they were entirely free from pigment. Hence it was concluded that a guinea pig's pulmonary alveoli are, when respiring pure air, free from pigmentations.

Experiment 7.—Animal used, a guinea pig. Secured from a point well supplied with pure air. Medicaments used, lavoline, holding iodine in suspension. The per cent of iodine was not constant nor great. Time of inhalation, two and one-half hours. Death produced by prussic acid, per rectum. The lungs were removed whilst the heart was beating; were thrown into plain water; placed on a freezing

microtome and frozen before the heart stopped beating. Sections were removed from the blade of the freezing microtome to a two per cent formaline, others to 1 per cent osmic acid. The formaline specimens after five minutes were mounted in water and examined. Result: The smaller bronchial tubes and air vesicles were filled with large, flat epithelial cells; many of these were loaded with fat; some of the fat was in small granules, some in globules about one-third as large as a cell. The other sections remained in osmic acid twenty-four hours, when they were washed with water and stained with saffranin and mounted in Canada balsam. The osmic acid specimens showed the fat stained black; the fat is clearly within the cell.

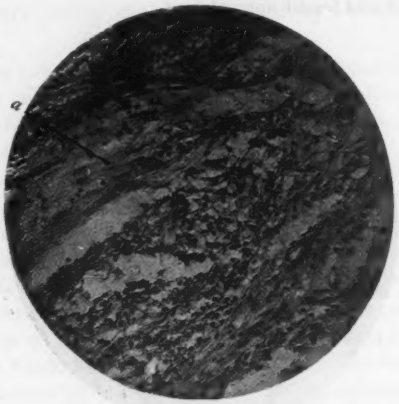

FIGURE 2.—Microscopic section; lung of guinea pig; low power (*x 70*), showing epithelial cells of alveolus (*a*) filled with fat. Fat globules stained with osmic acid.

I attribute the comparative failure in some of the earlier experiments to demonstrate vaporized medicaments in the alveoli to be due largely to the irritating substances that were used, namely: Iodine, iron salts and nitrate of silver. The animals, after a few minutes exposure to the vapor, had a hyper secretion of mucus which appeared in the nostrils and the mouth; when this had formed, the air entering the respiratory passages was obliged to bubble through a large amount of mucus. No doubt the material in the vaporized air was largely taken out in passing through the fluid. The success of the experiments seem to depend largely upon the persistency of the vapor. Also in avoiding too irritating a vapor. The vapor, as produced by my inhaler, is certainly very persistent. When the ani-

mal is taken out of the box, and the box closed some fifteen or twenty minutes, and then again opened, it will be found to be still filled with vapor,

Experiment 8.—Subject, male; age 40; Pole. Place, Cook County Hospital. Disease, secondary anæmia and septicæmia following suppurating tonsilitis. Vapor used, lavoline slightly flavored with oil of gaultheria; time of inhalation, twenty minutes. The respiratory movements were very complete with unusually deep forced inspiration and almost normal expiration. All of the accessory respiratory muscles were brought into play during the period of inhalation.

(NOTE.—Previous to the vaporization, the lungs of the patient were examined and found normal.)

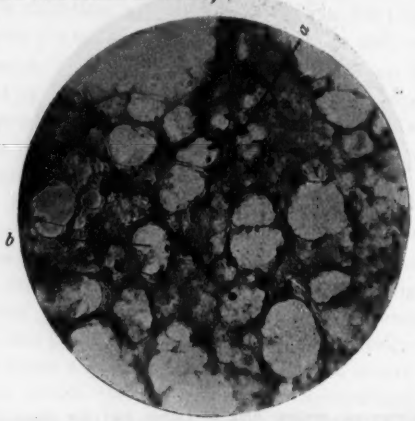

FIGURE 3.—Microscopic section; lung of guinea pig; (*x 100*), showing epithelial cells of alveolus filled with fat (*a*) and alveoli (*b*) without fat. Fat globules stained with osmic acid.

Soon after death a post-mortem was made. A small section was cut from the lower lobe of the left lung and placed upon a freezing microtome. When ready, sections were made and placed under a high objective. They revealed oil globules in the alveoli. Another section of the lung from the lower left lobe was put in osmic acid the following morning and allowed to remain seventy-two hours. Sections were then made by a freezing microtome and are the ones presented here for your inspection. They show well-stained oil globules within the alveoli. This I believe to be the first time a demonstration of a vaporized medicament, penetrating into the pulmonary alveoli of a human lung, has been made.

And now, reasoning upon the demonstration of oil globules in the

pulmonary alveoli of the healthy lung, is it possible for any globules to reach localized diseased areas? I think it generally admitted that vaporized medicaments have an established therapeutic value in diffused catarrhs of the respiratory passages as far down as the larger bronchial tubes. The present extent to which vapors are used in the treatment of diseases of respiratory passages is sufficient evidence that they are of considerable local benefit in the treatment of affections of these passages, down to the smaller bronchial tubes. I have repeatedly seen good results in treatment of localized inflammations of the bronchial tract, by inhalation, as far as the second division of the bronchi. I have obtained results in that way that I have repeatedly failed to secure with internal medication. It is surprising how the respiratory ability can be increased by a little instruction and effort.

In treating cavities in the lungs that are accessible to the air current there is certainly a field for this kind of medication. There is no reason why a phthisical cavity accessible to the air current cannot be antiseptized in this way. There is no reason why an alveolar cavity should not be disinfected with vapor as readily as a bronchioatic cavity. If this can be done, considerable relief can be afforded patients. When it comes to treating diseases of the lung where there have been pathological changes in the lung tissues, it appears to be another question. It would seem as if we strike a limitation which is a serious one; namely, interference with natural respiratory processes on which the success of inhalation depends. In such a condition it would seem as if the bulk of inhalent would be diverted to those portions of the lung which are compensating for the diseased areas. In inspiratory tuberculosis, up to the time we have necrosis of lung tissues, there is a portion of the lung which we desire to reach by inhalation apparently effectually blocked by catarrhal products both within and without the alveolis. In tuberculosis, due to infection from the lymph or blood cells, we have a focus upon which is deposited extra-alveolar, and which is usually surrounded by more or less connective tissue growth; which, theoretically, would seem to offer a serious barrier to the passage of any vaporized medicament through the alveolus; even supposing, through osmotic action or any other process, such a passage was possible. Theoretically, it would seem that there exist, mechanically, limitations to the effect of any such treatment in tubercular diseases. However, since there have been so many theoretical objections made to the penetrability of vaporized medicaments in the respiratory passages, it is time to stop theorizing and see what can be demonstrated. It is probably

true that inspired solid particles do not reach beyond the area of ciliated epithelium. But, in the form of vapor here produced, there is an intimate mixture of the molecules which largely favors passage beyond the area of ciliated epithelium. Diffusion is a molecular current rather than a gross current. The residual air in lungs is changed every seven inspirations. Hence in healthy lungs there appears no pathological objection to the penetrability of vaporized medicaments into the pulmonary alveoli.

We should remember that in animal experimentations the cooperation is wholly unintelligent and involuntary, whilst the use of vaporized medicaments among most patients is attended with a considerable degree of intelligence and voluntary assistance. The field alone of treating catarrhs of the lung, localized bronchitis, accessible cavities and the good that will accrue from the increased expansion of the lung, induced by such treatment, is of itself ample ground to encourage us in persisting in this line of medication.

An interesting point to ascertain would be what per cent of the vaporized medicaments used are retained within the pulmonary alveoli. Pascal demonstrated that by ordinary methods of inhalation about one-fifth of the vapor is retained and four-fifths is expelled. Hence, in the past, this line of treatment has not been of very much practical benefit on account of the small amount of vapor which has been contained within the bronchial tubes, and perhaps within the alveoli. I believe the apparatus exhibited is capable of causing the retention of a large proportion of the vaporized medicament. By placing patients under the influence for a considerable length of time we certainly do a great deal of good in the local treatment of catarrhal disorders of the respiratory passages.

* * * * * * * * * * * *

In conclusion, I desire to express my deep obligation to and appreciation of the many professional courtesies extended to me during the experiments, by the following gentlemen: Drs. Klebs and Preble for German translations; Drs. Humiston and Reedy, of the Cook County Hospital, for the practical work in connection with the use of the vapors there; to Professors Evans, Wesener and Gehrmann, of the Columbus Medical Laboratory, Chicago, for invaluable assistance and suggestions in the investigation of this subject.

CHRONICALLY DISEASED TONSILS.*

BY DR. H. W. WHITAKER, COLUMBUS, OHIO.

Late P. A. Surgeon U. S. Navy; Lecturer on Diseases of the Nose and Throat, Starling Medical College; Physician to the Union Missions Free Dispensary; Physician to the Children's Hospital, Woman's Hospital and the Convent of the Good Shepherd.

It may be truthfully said that, during all seasons of the year, cases of acute follicular tonsilitis exist in the Mississippi Valley. The severity and frequency of the attacks may vary, however, with the season of the year and the *individual* peculiarities and susceptibilities of the patient concerning this disease.

The clinical characteristics of acute attacks are well known and recognized by all without difficulty. The patients are treated during the four or five days of the attack; they are discharged, and we see no more of the disease, perhaps, until a return seizure. Not so, however, is it with the chronically diseased tonsils, of which we occasionally see a great deal and have with us for a long time.

It is deemed unnecessary here to attempt to enter into the mooted question of the function of the tonsils, and their significance, physiologically, in the animal economy, as they exist in a normally healthy condition. Only after they become diseased and assume a pathological condition will they be of interest to us here.

We are almost persuaded to believe that seriously diseased tonsils are frequently underestimated in importance and are left unattended, and they cannot be anything but a prejudicial factor, influencing the general health of the patient.

We observe that acute tonsilitis usually attacks children of a tender age—occurring even in infancy—and there is generally made a profound impression upon the constitution of the little sufferers, from which they rally more or less slowly. We also observe that one attack opens the way for the second, which occurs either immediately or remotely, and with increased severity, often involving the cervical lymphatics, which remain enlarged and are irritable. Having departed from a healthy condition, under exciting influences, it is easy for them to remain so through the age of childhood to maturity.

Patients who have repeated attacks of tonsilitis are subjected to a variety of annoyances and inconveniences in consequence. Com-

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paratively unimportant they may seem, but, nevertheless, they possess a detrimental influence in the case by preventing a free and easy respiratory action, and cause mouth breathing, snoring during sleep and night terrors—dreams—in children, and also assist the formation of adenoids in the vault of the pharynx. In these cases the blood is not freely oxygenated and anæmia, soon or subsequently, makes its appearance. There is also associated with these conditions more or less general catarrh, with irritable and spongy mucous surfaces.

Chronically diseased tonsils may be classified as follows, viz.:

Hypertrophic
Hyperplastic } Enlargements.
Lingual
Tonsilitis.
Atrophy.

The first two varieties exist under vastly different circumstances. The hypertrophic is found oftenest in childhood and consequently the more frequent of the two. The hyperplastic occurs in adult life preferably. In the one there is an hypertrophy of the normal histological elements composing the gland. In the other—the hyperplastic—there is a predominance of connective tissue, which may, indeed, almost entirely change the character of the gland.

In the former, the color is darker, its consistency softer and seemingly there is an abundance of glandular tissue, and usually presents a ragged or uneven surface. As in health, the hypertrophic tonsil presents the orfices of the crypts, which, upon inspection, or probing, are found enlarged, and often contain masses of degenerated epithelium scales and mucous. The reddening of the mucous membrane covering the tonsil varies much in the same individual, and largely depends on the length of time which has elapsed since the last acute attack. The mucous surface dips into and lines the cavity of the crypts. The sub-mucous layer is usually thickened by a deposit of connective tissue fibre which surrounds the lymphatic bodies, which, in turn, are often increased in size.

In hyperplastic tonsils there is also observed an increase in the number, as well as in the size, of the lymphatic bodies. But what is more noticeable is the increase in the development of connective tissue bands which occasionally compress or obliterate the crypts of the tonsils. In the same manner, blood vessels are constricted and the normal blood supply is reduced, which is sufficient to account for the difference in color, which is paler than in the hypertrophic variety.

The faucial and pharyngeal tonsils having the same normal histological elements, it is but reasonable to suppose that whatever exciting causes arouse glandular activity or produce irritation in the one is also liable to set up the same activity in the other. Consequently, we often find that adenoids exist in children, who, for some time, have had derangement of the faucial tonsils.

In the variety of lingual hypertrophies much the same conditions obtain, except that the lymphatic follicles are distributed over a broad base instead of being bunched together as they are in the other forms. Lingual enlargements are usually preceded by a history of faucial tonsilitis existing in earlier life. Of themselves they are the least important and often exist without causing the patient anything more than an annoyance. Following repeated attacks of congestion, there is hyperplastic deposit about the individual mucous glands as elsewhere. These glands can be detected, as they stand above the surface over the dorsum of the tongue, from the pappillæ circumvallatæ, to the dorsum of the tongue. They are recognized by the opening of the duct, into which passes the mucous membrane and lines the bulbous cavity of the gland. As elsewhere, in the submucous layers, are placed the lymph bodies enclosed in a fibrinous mesh, enveloped by a fibrous capsule. The bulbous expansion of each mucous gland is surrounded by lymph tissue which functionates as a separate secreting gland. The abundance of lymph tissue here renders them susceptible to enlargements which appear secondary to the faucial disturbances.

Tonsilitis.—In the glandular structure of the tonsils, the enlarged crypts having small openings favor the retention of catarrhal exudates which undergo a degenerative process, forming at first a cheesy mass, but subsequently change through various stages until a calcareous condition has been attained.

In various conditions of diseased tonsils, crystals of lime are occasionally found existing in the body of the gland. They are also found in tonsils externally possessing a healthy appearance, and give no inconvenience. This condition is considered by some as being of a gouty nature. In size the concretions vary from a crystal to the weight of several grammes. Their composition is made up chiefly of phosphate and carbonate of calcium, with a small quantity of magnesium.

Tonsilar Atrophy.—We occasionally encounter patients who, from birth, have imperfectly developed faucial tonsils, and they generally escape all forms of congestion and inflammation. In other instances, after one or repeated attacks of acute tonsilitis, the glands

become hard and fibrous in consistency and gradually decrease in size, without annoyance to the patient. The atrophy is often unilateral, but does occur bilaterally. In outline these tonsils are usually smooth; are harder than normal and are pale in color. Occasionally one or more crypts become filled with caseous deposit, which accumulates in size, with distension; other lymph follicles are compressed and often absorbed so that not unfrequently the entire body of the tonsil is filled with the degenerating mass, and when removed, the capsule of the tonsil collapses.

Either by fibrino-plastic deposit about the nutritive blood-vessel, or by the pressure of the accumulating mass within, the quantity of blood is reduced, and glandular atrophy occurs as a result; or the atrophy occurs through a neurosis.

To turn out the retained cheesy mass, and irritate the sack with the hope of occluding it, is the only treatment indicated.

The causes which induce chronic tonsilitis are predisposing and exciting. Under the former, hereditary influence seems to stand forth prominently and demands recognition. In a greater number of cases it will be found that one or both parents have been victims to attacks of acute tonsilitis. Again, family habit or susceptibility to acute tonsilitis is a thing of record in the observation of every physician. In some families attacks are common, while they never occur in others. The existence of rheumatism and tonsilitis in the same individual has been observed and noted for a long time. Involving, as it does, the existence of a diathetic habit, this theory offers a reasonable explanation, which is worthy of consideration, in investigating the hereditary connection of the disease, as a predisposing factor.

Among other agencies which act as *exciting* causes of the formation of this trouble, we may mention first diphtheria, and scarlet fever second. It may be said these diseases almost always leave behind them glandular enlargements about the cervical region. In the same category, but occupying a less prominent position, may be placed measles and whooping cough. As a result of these diseases, a susceptible lymphatic irritability often remains for a long time.

The "lymphatic diathesis" has an immeasurably far-reaching influence upon the health, growth and development of a child. The vaso-pharyngeal mucous membrane, so abundantly supplied with blood and glandular elements, seems ever ready to respond not only to a variety of infectious agents through the lymph bodies and glands, but also responds through the nervous system to varying conditions of sudden changes from heat to cold. Through the vaso-motors,

functional activity in the lymph follicles is easily increased, and hyperplastic deposits are made about the mucous glands, as well as around the lymph follicles during attacks of acute tonsilitis, and the neighboring lymphatic cervical glands are also aroused in the same process. But proliferation and degeneration is favored by the repetition of congestion and depletion; by the vitiated atmosphere of over-heated, insufficiently ventilated apartments during the winter months; by over-crowding in working-rooms in large cities; by being under-fed and poorly clad; by exposure to atmospheric conditions without adequate means of protection.

Symptoms.—There is usually present a history of hereditary tendency to the disease, and oftentimes there have been repeated attacks of acute tonsilitis during earlier life, with sequent enlargement of the cervical lymphatics, which, often, are tender. There is susceptibility to sudden changes of temperature. During winter months frequent attacks of coryza or rhinitis occur from which, in due time, a general head catarrh is established. Vaso-motor disturbances are of frequent occurrence.

In the majority of cases there is present post-nasal catarrh, and a mucous discharge takes place, either through the anterior nares, which, at times, impedes nasal respiration, or posteriorly into the pharynx. Being repeatedly congested and bathed in mucous, the pharyngeal tonsil becomes involved with adenoid formation, which assumes a degree of activity depending upon a variety of conditions which usually are not wanting. Such a combination tends to materially aggravate the course of chronically diseased tonsils. About this time, when adenoids are well under way, mouth breathing begins and with it a noisy, unpleasant respiration, which becomes a snore during sleep. Children become listless and hear badly; they become anæmic and grow lean and lank. Discomfort is complained of only when the glands become sufficiently large to interfere with swallowing, or when the crypts become filled with catarrhal exudative masses. The lower jaw droops, the mouth remains open, the eyes are dull and often congested, the facial expression is heavy or stupid. The respirations are shallow and imperfectly executed; the chest expansion is restricted and the blood is imperfectly oxygenated, which further tends to aggravate the tendency to anæmia.

The voice is flat and nasal in character. Cough is a variable symptom. Inspection reveals the enlarged tonsils, often ragged in outline, red in appearance and granular in the hypertrophic variety. The mucous glands, occupying the pharynx, are involved and enlarged, so that the throat presents an abnormal appearance. The pillars of

the fauces are frequently granular and congested, and the capsule of the tonsil may be found adherent, a condition it is well to have determined before excision is attempted.

In the hyperplastic enlargements the tonsils are found to be symmetrically enlarged, usually quite round, hard and pale in color. In the lingual hypertrophy, few, if any, characteristic symptoms are present. Histories of previous tonsilitis are found. Faulty digestion, associated with hepatic inactivity and constipation, is present in the majority of instances. A slight, tickling cough is sometimes complained of, as well as the feeling that a foreign substance has been lodged in the throat. Retained masses are found in these glands, and they have occurred more frequently in women than in men, in the writer's experience.

Prognosis.—At about the age of thirty years the disease sometimes is dispelled by a spontaneous recovery; in children, at the age of puberty. In the meantime, however, the patient's condition may become so unsatisfactory, and much irreparable harm be done, if diseased tonsils are permitted to remain; it is desirable to remove them.

Usually the most satisfactory results follow excision or cauterization, which is advisable, whenever the tonsils become subject to too frequent attacks of acute inflammation, or the general health begins to be impaired.

Simple, non-pathological enlargement of the tonsils, without glandular involvement, does not demand surgical treatment, unless, by their size, they become objectionable.

As to the results of excision, the patient, friends and acquaintances—they often have to be consulted—confidently may be assured that the voice will be vastly improved, both in tone and quality; that no deleterious sexual changes or perversity will ensue.

Treatment.—We have to consider the hygienic and prophylactic, local, constitutional and surgical. The activity of an acute attack having passed, the attending physician usually examines the throat, and, seeing that the follicles are freed from the deposit in the crypts, and the patient declaring that he "feels all right," is discharged as cured, without further treatment. After such an attack, the tonsils are enlarged, soft and hyperæmic, and, without the local application of astringents regularly applied, until they return to their normal size, the tonsils remain in a condition favorable for an early return attack.

Victims of tonsilitis, acute and chronic, should be warned against exposure to wet, cold atmosphere after physical exercise or exertion, and especial attention should be exercised in keeping the feet dry

during sloppy, wet winter weather, by the use of rubber overshoes. Nothing in my experience is so provocative of acute tonsilitis as to permit the feet to remain and become chilled in wet boots and stockings. This fact was forcibly impressed upon my memory when serving as surgeon aboard one of the United States training ships for apprentices, while at anchor in the lower harbor of New York Bay. It was during the month of April. The ship, having on board about one hundred and fifty boys, varying in age from fourteen to twenty years, had wintered in the West Indies where perfect health had been enjoyed. The morning after anchoring, the decks were holystoned and scrubbed, the boys doing the work. The time occupied was about an hour and a half, during which period many were barefooted, while others wore rubber boots, and all were seemingly well. By the time of the next morning sick call, about one-third of the number of the boys were ill with acute follicular tonsilitis in varying degrees of severity.

Flannel should be worn next to the skin. A morning bath in cold water should be indulged in to the waist, if not all over, and followed by a brisk rub. The neck, especially the fore part, and chest should be douched liberally. The habit of wearing fur boas—so popular with women—neck mufflers and such neck wraps should be discouraged. They keep the neck too warm and make it susceptible to change of temperature. When out in the open air the mouth should be kept closed and the normal habit of nose-breathing encouraged as much as possible. Overheated, dry apartments should be avoided, while the sleeping room must be adequately ventilated.

Local Treatment.—The majority of children indifferently bear with, or do not tolerate, local treatment. In older persons the use of such astringents as the glycerite of tannic acid, ferric alum or chromic acid, properly diluted, gives satisfactory results. Crystals of ammonia alum inserted into crypts, and there permitted to dissolve, act energetically to prevent the accumulation so frequently encountered.

Constitutional Medication is imperative in anæmic conditions accompanying lymphatic glandular enlargements. For this purpose, iron and iodine, combined in some form, is desirable. As a resolvent tonic, the syrup of iodide of iron enjoys an extensive reputation, applicable to such cases. But, candidly speaking, it must be admitted to be unsatisfactory in many respects. The syrup of hydriodic acid, in full doses, is always palatable and acceptable to children and produces results as satisfactory as could be expected. The various salts of mercury should not be forgotten and with an especial advantage they may be combined and administered with iron. Cod liver oil and the bitter tonics are worthy and demand a place on the list.

The digestive functions should be watched carefully, kept active and in a healthy condition. For this purpose it is well to restrict the use of sweets, pastry and rich salads. The normal secretions should be looked after and maintained.

Surgical Treatment.—In repeated instances, the diseased crypts are constantly filling with the masses of a cheesy consistency which, at times, becomes offensive, the tonsils not even being enlarged. The opening of the crypt should be enlarged, the plug turned out, and the cautery point applied at a white heat to each follicle. When the cautery is not at hand, a fifty per cent. solution of trichloracetic acid, carried by means of a cotton plug, wound over the end of a cotton carrier, may be employed to destroy the lining of the sack. The fluid nature, however, renders it necessary that care be used in making applications about the throat. To avoid pain, a weak solution of cocaine should be previously applied to each spot. The inflammation resulting from a thorough application of this kind, occludes the follicles so that future return is impossible.

Tonsilliths are treated in a similar manner and recovery is complete.

In hyperplastic enlargements excision is the only feasible and reliable method worthy of consideration. It is deemed unnecessary here to detail the methods which are familiar to all, for their removal.

In hypertrophic tonsilitis excision is also desirable whenever it is possible; but occasionally they cannot be removed. In such instances, it then becomes necessary to destroy the offending enlargements by means of the galvano-cautery point. For this purpose the platinum-covered porcelain electrode has been designed and is necessary for the accomplishment of satisfactory results. After swabbing the parts with cocaine solution, one, two or three applications may be made at each sitting and repeated at an interval of every two weeks.

Lingual hypertrophies are best treated by incision or curretting, followed by the galvano-cautery to each enlargement.

Especial attention should be exercised in correcting any mal-digestion present and in overcoming constipation. For this purpose the effect of sodium phosphate, blue pill and podophyllin is superior to almost all others.

The presence of adenoids in children, having chronically enlarged tonsils, should be anticipated, and, whenever detected, removed; for no treatment will prove satisfactory so long as any exist. Permitted to remain they immediately disarrange the general health and comfort, as well as hinder the growth and development of the child. Thorough treatment is always advisable.

No. 72 South Grant Avenue.

ACUTE INFECTIVE MENINGITIS BEGINNING NINE HOURS AFTER INCEPTION OF ACUTE SUPPURATIVE INFLAMMATION OF THE TYMPANUM, DIFFUSE MENINGITIS IN THIRTY-SIX HOURS—DEATH.

BY F. B. EATON, M.D., SAN JOSE, CAL.

The following case is believed to be not only remarkable as regards the early appearance, explosive violence and speedily fatal termination of an acute tympanic suppuration, but instructive as regards questions of the bacteriology and the probability or not that death could have been prevented by very early surgical interference according to the authoritative otological teaching of to-day:

Mrs. S. R., æt. 57, for years had had headaches of gastric origin. Never any ear trouble; no tubercular condition, and was in better health than for years, when, about May 4, 1897, she was attacked with a mild form of influenza prevalent in this city at the time, with cough and some bronchitis. Her son-in-law, Dr. C. A. Wayland, a careful and competent physician, attended her, and she was kept in bed until the 9th, when she had so improved as to be allowed to get up, but not to go out of doors until the 12th, being cautioned then against any imprudence.

On the afternoon of Thursday, May 13th, she occupied herself watering her garden, and that evening complained of a "stuffed up" nose. At bedtime, 7 p. m., a very severe earache began on the right side, and an intelligent trained nurse sat up with her all night, irrigating the ear with hot water every two hours with some alleviation of the intense pain. At 4 a. m. the following (Friday) morning the patient remarked that the pain (in the ear) was less, but that "As soon as it got better I began to have an awful pain in the back of the head." This pain, which later became an agonizing general headache, never left her, notwithstanding that at 10 a. m. of the same day (Friday) the membrana ruptured and a purulent discharge appeared with considerable relief of the otalgia. Temperature 11 a. m., 101°. At noon of this day, Dr. Gordon, a specialist, was called in, examined the ear and found a moderate discharge tinged with blood. Temperature 5 p. m., 103°; 11 p. m., same. According to the nurse's record, at 3 a. m. Saturday, the discharge ceased, and 9 a. m. the patient was so delirious as to recognize no

one. Temperature 8 a. m., 100°; 3 p. m., 102°. At this time (3 p. m.) I was called in consultation with the hope that something might be done surgically to re-establish the discharge, or to check the course of the malady. The patient was now wildly delirious. Inspection revealed free perforation of the membrana, having blood-tinged margins, and but a bare show of pus.

As the case seemed hopeless to all the consultants, nothing was done, save to make a deep incision into the cellular tissue of the attic. There was no sign of mastoid involvement, and diffuse infective meningitis was diagnosed. Later in the day coma supervened; the temperature rose to 104°; pupils enlarged; there was slight paresis of the right arm and leg with proptosis of the right eye, and on Sunday (16th) at 4:30 p. m. death ensued without interruption of the coma.

Resume and Remarks.—An elderly lady, recuperated from a mild catarrh of the respiratory tract, is suddenly attacked with severe acute suppurative inflammation of right tympana. Nine hours thereafter severe and unceasing pain indicative of meningitis. Perforation of membrana in fifteen hours, and temperature of 101°, steadily increasing to 103° and 104°, with cessation of discharge in thirty-two hours, and in thirty-six hours all the symptoms of diffuse meningitis. Finally symptoms of basilar extra-dural abscess. No symptom of mastoid involvement at any time.

Infective intra-cranial disease, as a sequel of *acute* tympanic suppuration in adults, is relatively infrequent, comprising about 5 per cent. of any large series of unselected cases of the disease. Macewen (*Lane Lecture, 1896,*) states that "When you have an acute process occurring in the middle ear, you comparatively seldom have any invasion of the brain. * * * Infective processes in the *internal* ear do not, in my experience, lead to abscess, but to infective meningitis."

The case above reported is believed to be extremely rare; at least the writer has not found, in a considerable mass of literature at his command, any reported case in which general diffuse infective meningitis of aural origin in an adult was established with coma in forty-eight hours after the inception of the pain—*i. e.*, of acute otitis. That rapid invasion of the tympanum by the diplococcus pneumoniæ, either alone or with other pyogenic bacteria, occurred, is evident from the history, for Netter (1889), in twenty-five cases of purulent meningitis, examined thirteen cases microscopically. Four of

the cases were complicated with purulent otitis, six with pneumonia, and three with ulcerative endocarditis. The pneumococcus was found in sixteen of the twenty-five cases.*

In the case here reported, unfortunately, no microscopic examination of the pus was made. The onset of diffuse meningitis was so rapid, and so astonishingly outside the experience of the physicians in attendance, that it is more than doubtful whether even a deep paracentesis into the posterior portion of the attic, if done as early as within an hour after the otalgia began, would have saved the patient; for the infection would seem to have taken a very short path through the vessels of the tympanic roof, or perforated the latter, to have established meningitis so promptly. Still, this appears to the writer a timely occasion to refer to the means at the disposal of many general practitioners, whereby they can, not infrequently, abort an acute suppurative process of the tympanum, and whereby they can determine intra-cranial involvement at its inception.

No author has more clearly set forth the principles and indication for surgical treatment than Dench†, who remarks: "The first stages of the process (Acute Purulent Otitis Media) consist in a hyperæmia of the affected parts. The folds in the vault of the tympanum become engorged with blood, increase in volume, and often fill the space (attic) completely, shutting off all communication with the atrium; * * * local necrosis takes place, the tissue breaking down with formation of pus. * * *‡ If local depletion does not produce immediate relief the parts should be thoroughly incised. * * * The incision should lie above the short process of the malleus and posterior to it. The knife is entered just behind the processus brevis and carried upward and inward parallel to the neck of the malleus until it has pierced the cellular tissue within the tympanic vault and impinges upon the bony wall. The knife is then swept backward to the periphery of the membrane, the deep tissues being divided throughout the entire extent of the incision. If the long process of the incus is encountered, as may happen if it lies high up in the cavity, or if the incision is carried a little too low, care must be taken not to displace it, the knife being allowed to glide over it, and afterward being pushed inward to the original depth to complete the incision. It is well, also, on reaching the periphery, to extend the section directly outward along the supero-posterior wall for a distance of a quarter of an inch, dividing all the soft parts

*Sternberg. Manual of Bacteriology, p. 300.
†Diseases of the Ear, 1894, p. 337.
‡Ibid, p. 334.

down to the bone. It is to be distinctly understood that we do not expect to liberate pus by this procedure, but to prevent its formation. Consequently the greatest care must be taken that the field of operation is in an aseptic condition * * * as all instruments and the fluids used subsequently. * * * This measure, when performed sufficiently early, may completely abort the attack.

* * * "When seen at a later period, and when the parts are distinctly bulging, it is wise to vary the procedure to the extent of beginning the incision over the area of the greatest bulging, remembering that our object is to incise the vascular tissues located in the superior portion of the cavity, and to liberate any contained fluid as well. Here, instead of carrying the incision outward upon the canal wall, the knife may be plunged directly into the most prominent portion of the tumor, carried deeply into the tympanic vault, and the parts divided directly upward as far as the superior margin of the meatus; the peripheral attachment of the membrane posteriorly should then be followed downward for a short distance, thus forming a triangular flap, to favor free drainage."

The writer has quoted freely, since his own experience with the author's methods has accomplished all he has claimed, being founded on sound pathology, and also because he has not found the general practitioner, who most often witnesses the disease in its incipiency, acquainted with them, nor some otologists, for that matter. As to the early signs of intra-cranial involvement, as Knapp puts it:* "The warning signal should be given as soon as *Meningeal Irritation* is noticed. * * * The chief symptoms of meningeal irritation are: *Headache; occasional nausea, vomiting, and dizziness; moderate increase of temperature; some acceleration of the pulse.* The two latter symptoms, though mostly present, seem to depend more on the virulence of the primary disease, the otitis, than on the meningeal involvement."

The same author has, in his usual lucid manner, stated that:† "It is difficult to recognize when meningeal irritation passes over into Meningeal Inflammation. As soon as in the course of otitis media, with its manifold symptoms, the *headache becomes persistent;* is followed by *attacks of nausea and vomiting, dizziness, drowsiness, delirium, or stupor; at first acceleration, later retardation of pulse and rise of temperature, dry tongue, thirst, and constipation*, we may be sure that meningitis has begun or is fully developed; the lethal issue is commonly preceded by *spasms in the extremities, and coma.*"

*Archives of Otology, vol. xxii., p. 143 et seq.
†Ibid, p. 152.

A NEW NASAL SPECULUM.

DEVISED JOINTLY BY J. HOMER COULTER, A.M., M.D., PH.D.

Professor of Diseases of the Nose and Throat, Chicago Clinical School; Professor of Rhinology and Laryngology, Harvey Medical College.

AND EDWIN PYNCHON, M.D.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College; Senior Assistant Aural Surgeon, Illinois Charitable Eye and Ear Infirmary, Chicago.

An efficient nasal speculum is pre-eminently the desideratum in rhinological practice. We have been experimenting with the object of producing a speculum which would be equally valuable for either examinations or operations. Our experience has been more favorable with hinged lever specula than with any of the self-retaining or smaller, slighter and more springy patterns of specula which are so frequently met with.

To simply stretch the meatus is not the only requisite in order to obtain a good view of the nasal passage. The speculum employed must serve us in other ways in order that it may prove to be the acme of success. It should be of a size large enough to be easily grasped by the hand of the surgeon, and will thus serve as a convenient handle whereby the nose may be guided as desired, or held fixed in one position with a reasonable degree of firmness. Having one hand thus engaged is no detriment, as in most intra-nasal operations only one hand is required, while the other is best employed in steadying the field of vision by a firm though gentle traction with the speculum. In this way there will be but little requirement for a head-rest, even in a sawing operation, particularly if the saw is set to cut on the pull. In using burrs and trephines with the electric engine, no head-rest is required.

The standard styles of nasal specula of the variety under consideration were found to possess certain common characteristics which we have in many instances been compelled to regard as faults.

1. The blades are placed at about right angles to the handles, therefore, when being used, the handle falls too close to the patient's chin. On the other hand, if the handle be held forward and away from the chin, the blades point to the floor of the nasal passage.

2. In opening the speculum, the upper edges of the blades travel farther, or open wider, than do the lower edges. To, in a measure, overcome this defect, some of these specula are hinged nearly half

way down the handle. As the nasal passage and meatus are wider below than above, it would seem wiser to have the speculum made to conform to the anatomical requirements.

3. The blades being generally wedge-shaped, display a frequent tendency to slip out while being used. In cases wherein the meatus is large, the blades slip inside the passage.

4. The springs met with are generally too strong. This, in combination with the location of the hinge pivot nearly half way down the handle, giving nearly as great a degree of motion to the blades as is given to the handles when being compressed, causes increased difficulty in gently expanding the blades.

We here illustrate a nasal speculum, the result of considerable thought and experiment, made with the object of avoiding the defects previously alluded to.

Coulter-Pynchon Nasal Speculum.

Instead of being at right angles to the handle, the blades are placed at an angle of about 70 degrees thereto. When viewed from the side, the handle is found to be slightly serpentine. The first downward bend gives increased room during instrumentation, and, by pressing against the upper lip when in use, tends to prevent the blades being too far inserted. To further assist in this latter aim, the upper, outer corner of each blade terminates in a horn, which horns so engage the meatus as to prevent the before-mentioned and undesirable "slipping into the nose."

When the blades are fully closed, while the upper edges touch each other, the lower edges are some distance apart, giving a space in vertical cross-section the shape of an isosceles triangle. The advantage of this arrangement is, that while as easily introduced as those specula, the blades of which approximate both above and below, it insures at all stages of expansion a greater stretch of the lower than of the upper part of the meatus. The handles, between the hinge and the blades, are somewhat apart even when the blades are fully closed; therefore, when the blades are separated, while the instrument is in use, the space between the handles is materially increased, so as to give the greatest amount of room during the employment of saws, drills, etc., while operating.

The most characteristic feature of this speculum is the "hump" on the outer, upper edge of both blades, in combination with the hollow

or depression between the humps and the horn-like terminals. This combination gives to the instrument its retaining feature, and prevents that frequent "slipping out" which has been previously noted, and thus permits of gently persuading the patient to remain stationary.

In the introduction of this speculum the tip and "humps" should first be entered within the meatus, while the blades are closed, and the handle held well out from the chin. After this, drop the handle down toward the chin, *holding it parallel with the median line*, and then expand the blades. The upper margin of the meatus will fit in the hollow or depression between the humps and horns. In use it will be found painless and, in fact, comfortable; certainly a feature of great merit. The humps also increase the expansion just inside of the upper margin of the meatus and thus facilitate a better view of the attic of the passage as the nose is pulled forward while the tip is being elevated.

Beyond the humps the blades rapidly diminish in size, and at the terminus are so delicate that the instrument serves admirably for examination of the smallest noses met with, or in those cases where the meatus is chapped or inflamed. The length of the blades is somewhat less than is that of the blades usually met with. To compensate for this shortcoming, the blade at the proximal end is made slightly wider from top to bottom than is usual. By these modifications, when the speculum is fully inserted, the expanding outer blade never presses against the inferior turbinal, and the maximum stretch of the meatus is obtained.

As this instrument does not aim to belong to the class of self-retaining devices, it is not provided with any set-screw to prevent closure of the blades. The spring is made particularly weak, and the sliding end rests in a groove to insure its remaining in place. The hinge joint is so made that tightening the screw-pin will not cause the joint to bind. A knob is placed at the end of either handle which allows the instrument to be more firmly held in the hand. The handles are somewhat longer than usual which gives increased convenience in use and is of particular value if the patient is to assist by holding the speculum.

This instrument has not been made more than ordinarily "asceptible," inasmuch as nasal surgery of the kind in which such a speculum will be used requires only simple, decent cleanliness. A thorough washing in boiling water, followed by drying and heating over an argand gas burner, is all-sufficient.

This speculum has been neatly constructed for us by Messrs. Truax, Greene & Co., of this city.

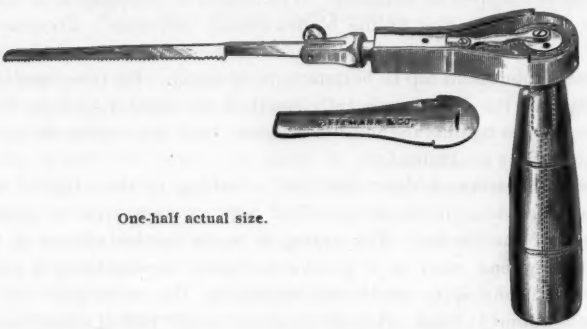
Columbus Memorial Building.

BLACK'S ELECTRO-MOTOR NASAL SAW AS IMPROVED.

BY G. MELVILLE BLACK, M.D., DENVER.

Professor of Ophthalmology and Otology in the Gross Medical College. Formerly Professor of Laryngology and Rhinology in the Medical Department of the State University.

The first report of my electro-motor nasal saw appeared in this journal in July, 1896. Since that time I have so perfected the instrument that I desire to once more call the attention of the profession to it. As the saw is now made, it is an instrument that seems to be perfect in all its parts. The former saw was faulty in that there was some lost motion in the running gear that caused it to be somewhat jerky in its movements and made an unnecessary amount of noise. After several modifications this defect has been entirely overcome.



One-half actual size.

The saw, as perfected, runs with scarcely any noise or vibration. The length of stroke can be changed from ⅛ to ¼ inch, if desired, by using the other screw hole in the eccentric wheel. Lost motion that could occur from wear in any part can be taken up. All the bearings are made of case-hardened steel. The saw-blade is the same pattern as before, only the teeth are twenty to the inch instead of thirty, as in the former blade. The teeth are made very long and sharp. They have no inclination toward the front end, or base of the blade, but set straight out from the edge of it. The instrument is so simple in its construction that it cannot get out of order, is so strongly made that it cannot break, and is not expensive. There are

no springs or levers for stopping or starting the saw, which fact is an advantage, as they tend to get out of order easily and make the instrument more complicated and naturally more expensive.

The advantages of the motor-nasal saw over the hand saw are that with this saw, owing to its very short stroke, a spur can be removed from the most inaccessible portions of the nasal cavity, whereas with the hand saw, with which at least an inch stroke is required, it would be impossible to get a hold on the spur or to saw through it. With the hand saw a spur with a rounding edge is hard to get a start upon because the saw will slip off. With my saw a start can be made on any spur, no matter how rounding it may be. With the hand saw there is danger of pushing the end of the saw through a thin septum which projects behind the spur. With the motor saw there is no danger of this, as the point of the saw can be kept well in front of this portion of the septum or passed beyond it. It is also easier to guide and keep in position than the hand saw. Lastly, with the motor saw much less time is consumed during the operation, thereby making it easier for both patient and operator.

I desire to thank Messrs. George Tieman & Co. for the interest they have taken in this instrument and the cheerful manner with which they have accepted my suggestions and the accuracy with which they have carried them out.

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EDITORIAL.

AUTHORS AND THE JOURNALS.

The rights and relations of authors and the journals are subjects not only of great interest, but they are of paramount importance. The position of an editor of a journal is not unattended with perplexing questions to solve and difficult tasks to perform. He stands between his contributors, reviewers and readers as a sort of literary clearing house, and he must guarantee fairness and honesty to all.

In the matter of articles contributed for publication the editor must consider first the interests of his subscribers. It is a delicate and disagreeable task to decline a paper volunteered to one's columns, no

matter upon what ground. The contributor is quite certain to place his own construction on the reason given and think it in the nature of a pretext. If it is his first effort he may be discouraged, notwithstanding his consciousness of ability; if he is not a "first offender" he may be angered. But the editor is the best judge of his patrons' wants.

The right of an editor to alter the manuscript of a contributor is often questioned. There are inalienable rights attaching to authorship. Manifestly, the editor has no right to change the meaning of an author. For want of space he may abridge matter, with an author's consent, omitting that which may not be pertinent, or necessary to the comprehension of the writer's thoughts; but he has no right to alter an author's words so as to change his meaning. Otherwise the language becomes that of another, and is no longer an exponent of the author's mind.

On the other hand, an editor cannot be expected to mar the character of his journal by the appearance of anything which will prove discreditable to it. He must be a judge not only of the soundness of the material offered for publication, but he must see that the grammar and the rhetoric do credit to a journal of literary merit. Unfortunately, many physicians of high medical attainments have neglected the acquisition of a literary education as a preliminary to their medical training. Their experience is of inestimable value to their contemporaries, and it would be unjust to all concerned to discourage the publication of their observations. The information which they can impart is paramount; the language is secondary to the thought. But there are ways in which this class of contributors may acquit themselves with a maximum of credit, and embellish medical literature. Accessible to them are trained persons, teachers in our schools, etc., who would gladly earn a few extra dollars by straightening out the tangled threads of grammar and polishing off the warts of rhetoric. There are those who are wise enough to avail themselves of such helps to remove the blemishes that disfigure their excellent work.

But there are editors who accept articles, change their punctuation, wording and construction of sentences, and omit whole sentences and paragraphs that are pertinent, and material to a complete understanding of the subject in hand, and all this without the consent or knowledge of their contributors. The astonishment and vexation of authors on seeing their productions appear in such mutilated forms can scarcely be expressed in elegant diction.

Proof of an article is an author's due; but its prompt correction, with as few material changes as possible, and its early return are obligatory on the writer. Common practice makes common law, and

these rules are commonly observed among authors, editors and publishers. Moreover, when a manuscript is placed for publication it should be in the final form in which it is to appear, without material alterations, for when it is once in type it cannot be essentially changed in wording without additional cost to the publisher.

The relations of authors of books to the medical press are of an interesting kind. Many medical books are largely the result of a crystalization of journal contributions in a permanent form of literature. Amplification and condensation play an important part, but the proposition as stated is substantially true. Authors and publishers present complimentary copies of their new books to the journals, with the expectation that these journals will give their readers an account of their contents and a fair estimate of the merit of the books.

Let us note in what manner the various journals discharge their duties to their readers and the authors. A very few print the title pages of these books, with no word of acknowledgement or comment. A few others "acknowledge with thanks the receipt of these books" (by the score), with no comment. Quite a number add a few words of the ordinary, stereotyped style, giving the book a good natured push toward prosperity. A glance over the binding, the illustrations and the general make-up, a few dashes of the pencil, and the book adds another to the plethoric and pretty library of the editor.

By far the largest class shows that the journals make an honest effort to acquaint their readers with the real character of new publications, so that no mistakes may be made by prospective purchasers. Even in this class it is quite evident that the editors, who have not the time to examine extensively and review all the works that come to their hands, still desire to retain the books on their own shelves. They ascertain first from the preface what each author's purpose is, and second, the manner in which he marshals his material to accomplish this purpose. They take a general account of the most prominent features, the methods of treating subjects, the presentation of those matters that happen to appeal to them with special interest, the aptness and execution of the illustrations, and the apparent experience and attainments of the author. The latter two points are estimated with facility by the experienced. These matters are considered, with the addition of a sentence or two relative to the mechanical workmanship of the publishers, and the review is done. This type of editors, by far the predominating one, is of the large-hearted kind, who are actuated by a desire both to aid their readers in selecting their books and to show their appreciation of the labors of their confreres.

There is another class, the most valuable of all. To this belongs the journal that places the books with reviewers representing all the

specialties, distributing according to subjects. Each reviewer is, presumably, an experienced and scholarly gentleman, who gives a well-studied, unbiased, well-balanced review of every book presented to him. These reviewers are a great help to the profession as a whole. If the book is worthless or harmful, the readers are spared the expense, waste of time and mistakes attendant upon its purchase. If the book is one of merit, both the author and reader are benefited, and incidentally the publisher, for the interests of all are conserved. If the author has fallen into errors they are kindly pointed out in all sincerity, and he takes advantage of these corrections to eliminate faults from subsequent editions. These reviewers call attention to new theories and methods of treatment, and in many instances add briefly the results of a ripe experience, enriching all who read. Such reviewers, sincere, impersonal and accomplished, are beacon lights to authors and readers alike.

But what shall we say of such practices as the following? There recently appeared a work on bacteriology by a proficient devotee of the laboratory. A reviewer culled a few sentences from this book, showing slips in construction and phraseology. These were displayed conspicuously, ridiculed, and an impression conveyed that the whole book consisted of a mass of unintelligible verbiage. There was not an honest hint that any information could be obtained from it. Another instance: A doctor visits the agent of a new book and makes a request for the loan of a copy, stating that he is very much interested in the work. He writes a so-called review, consisting of hypercriticism, unfair suggestions and patent falsehoods, insinuations that its author, to whom the young tyro-reviewer imagines himself a rival, is incompetent, notwithstanding his work extending over a respectable fraction of a century. This type of reviewer decides that there is nothing in this book that appeals to the reason, nothing that should escape his condemnation, except solely, the mechanical work of the publisher. This "expert" offers his "review" to a journal, the editorial staff of which has not honored him with membership, and it appears in print, and he threatens to "give it to him again in another journal." Here is presented a spectacle of a solitary malicious "review" out of a very large number from the journals of various countries. What shall we say of this class of journal service for the American medical profession?

What matters it whether such a journal be prominent or obscure, influential or inconsequential? Is it not a question of honest and competent journalism? Is it not due the subscribers who support these journals, and who take their time to read them, that truthful information from reliable sources be provided? Medical men are supposed to be imbued with the scientific spirit which seeks the truth,

the whole truth, and nothing but the truth. If this belief is not a farcical myth, shall our journals degrade the dignity of scientific journalism to the level of the country newspaper that imposes upon its readers who pay for news, and fills its columns with vituperation of its neighboring competitor?

Does it not pay, even reflexly, to be honest, fair and broad-minded? Medical journals, as a rule, maintain a liberal, and even a generous attitude toward those who earnestly labor to enrich our literature. Editors and experienced reviewers endeavor to give due credit for study and work, to give a faithful representation of the aims of authors and the manner in which they have fulfilled them. The first well recognized duty of a reviewer is to acquaint himself with the intentions of an author and the scheme of his work as it is customarily laid down in his preface. Then follows an impartial survey of the material which is to decide whether the author has accomplished his design or not. The result is, or should be, given in an impartial, disinterested manner, as a judge or jury passes on the law and the evidence. The reviewer is expected to rise above the petty jealousies and the degrading prejudices that too often characterize undisciplined minds. It should not be forgotten that a book may represent a lifetime of arduous labor, amidst the embarassing burdens of the additional toil necessary for earning a livelihood for the author and those who are dependent upon him. Unfair treatment at the hands of the press may sometimes mean a blasting of hopes, possibly a blighted reputation, and even worse to a highly sensitive nature.

It is not denied that a reviewer who never wrote a book may know better than an author how it should be written. The questions that must be decided to a nicety, the even balancing of subjects, the adjusting and proportioning of details, the discerning judgment that must be brought to bear in deciding just what is worthy and what unworthy of presentation, the taste that must be exercised, the pleasure or the vengeance of those who will expect to see their names quoted and their writings honored, the adaptation of one's language both to the novice and to the accomplished thinker, so that the perspicuity demanded by the one and the scholarship exacted by the other may not be disappointing—all these problems and a myriad more beset the author's task.

Considering all the points at issue, we may find it difficult to unite all interests in harmonious accord to strew the pathway of our journalism with flowers, to paint with roseate hues the offerings and sacrifices of our brother workers, but we can, in all honor, do no less than worship at the shrine of fairness and common honesty.

S. S. B.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION'S MEETING.

SECTION OF LARYNGOLOGY AND OTOLOGY.

Dr. Greville MacDonald (London), President.

Specially reported by W. Permewan, M.D., F.R.C.S.

(Reprint from *The Journal of Laryngology*, Nov., 1897.)

Montreal, September 1, 2 and 3.

DISCUSSION ON TURBINOTOMY.

Opened by Greville MacDonald, M.D., President of the Section.

Gentlemen—Removal of larger or smaller portions of the turbinated bodies has been practiced more or less by us specialists ever since, I imagine, we first encountered those cases where the operation would obviously cure the patient of whatever symptoms might be attributable to such hypertrophy. But yet it is only quite lately that the word "turbinotomy" has become one of frequent use. And this indication of an enlarging interest in the subject inclines one to ask the questions, first, whether such operations are now performed in cases where formerly milder measures appeared to suffice; secondly, whether our patients are more expeditiously cured, and whether there is any possibility of too great an operative zeal resulting in actual harm to the patient.

I am excluding from my remarks all operations on the middle turbinal, seeing that it is not usual to admit this structure when using the word "turbinotomy," and also because it would lead us into regions too vast to be even prospected in the time at our disposal.

Resection of the inferior turbinal in part may be required (1) for the relief of obstruction to respiration; (2) for the relief of the various neuroses; and (3) for the relief of a very troublesome and rather uncommon form of catarrh.

For such affections or symptoms, removal of those large cauliflower, corrugated, or muriform masses, occupying more especially the anterior and posterior extremities of the bone, has been among the earlier triumphs of rhinology. For the grosser of such hypertrophies, the incandescent or cold snare have always been the chief methods adopted for operation; while the smaller are sometimes sufficiently reduced, if not eradicated, with the electro-cautery point.

There are cases where specialists of not very wide experience may fail to give all the relief they had hoped for by such methods. This generally arises from the fact that they overlook the large masses often concealed in the concavity of the overhanging bone. We sometimes see enormous masses in this region which can be shelled out, so to speak, with a probe, and either cut off with scissors or removed piecemeal with the snare. The latter is often preferable on account of the relatively small amount of hemorrhage it entails. I am somewhat anxious to emphasize this concealment of the much-hypertrophied tissue for the sake of recording my experience that in all such cases—and I have had my share of them—a cure can be effected without interfering with the bone; and I suspect it is in such cases, where the real difficulty is overlooked, that the danger may arise of considering it necessary to remove large portions or the whole of the inferior spongy bone.

Hypertrophy of the erectile tissue, moreover, has appeared to me to be more often associated with asthma than are other affections of the nose. And, correspondingly, the prognosis of hay fever and paroxysmal sneezing is better where the objective trouble is inferior turbinated hypertrophy than any other disease. So that for this reason alone it is incumbent on us to inquire into every method advocated for the relief of the obstruction in the inferior meatus.

But there are undoubtedly cases where the snaring or cauterizing of the mucous membrane is not sufficient to ensure the desired relief. In such, respiration through the fossæ is not necessarily obstructed, although, of course, it may be, and the specialist's attention is often drawn to the condition only by the accumulation of ropy mucous or muco-pus in the inferior meatus, which the patient experiences the greatest difficulty in removing from the nose by the ordinary methods. He is constantly wiping the nose, being unable to blow the accumulations into the handkerchief. The mucous, in fact, is imprisoned in the concavity of the inferior turbinal, as well as in the portion of the inferior meatus internal to the turbinal, by the relatively large size of the overhanging bony structure. The free border of the spongy bone may lie almost or quite in contact with the floor of the nose, and in a few cases we see adhesion of its anterior part to the floor beneath. This may result in the formation of a pocket with or without a small opening in its anterior portion. Into such a pocket the patient is constantly forcing the accumulations of mucous in his endeavors to clear the nose, the result being that he is never free.

In most of such cases, I believe, the fault lies in a structural malformation rather than a pathological condition. Just as in the many

and extraordinary malformations of the septum with which we have so often to deal, the fault appears to have originated in a sort of error of co-ordination in the relative extent to which the septum and the vertical diameter of its containing chamber have arranged for their individual extension, so the inferior turbinal appears to have attained a size which would have been suitable only in a nasal fossa with a greater vertical capacity. But I have never seen any case where the bony structure appeared to be too large in the posterior regions of the fossæ, any more than deviations or hypertrophies of the septum are to be found in the regions brought into view with the post-rhinal mirror.

In these cases the only treatment that can be considered satisfactory is the paring off from the free border of the bone of as much of ts substance as will secure a free passage of air and mucous. This can usually be attained with scissors, or the combined use of scissors and snare, as practiced by Dundas Grant. But it is only the anterior portions that ever need such treatment in my experience; and I have never seen any case where it was necessary to do more than this. I have never been tempted to remove large portions of the inferior turbinal, beyond the masses of hypertrophy with which we are all so familiar. And although I have heard the views of those who advocate the larger operations on the inferior turbinal for the relief of obstruction to respiration, or for the removal of certain neuroses, yet while amply convinced of the feasibility of such operations and of the relief they may afford, while even admitting that no appreciable harm may result, yet, let me repeat, I have for my part not seen the cases where the desired relief could not be acquired by milder measures. The great hemorrhage, and the frequent necessity for plugging, render the operation graver than almost any other in the nose. And we have yet to see whether, in the course of a few more years, we shall not encounter in these patients definite evidence of chronic inflammation of the larynx, etc., resulting from the removal of what may be justly described as the most important organ of the nose.

In a series of experiments* made some years ago by myself, more especially with a view of ascertaining the degree of moisture and temperature of air after passing through the nasal fossæ, among other things I was able to show that the amount of moisture exhaled was diminished approximately to one-third or less after the application of cocaine, and the collapse of the inferior spongy body. Although this was only what one would expect, it adds weight to an impression

* "On the Respiratory Functions of the Nose and their Relations to Certain Pathological Conditions." 1889.

pretty generally held that to the inferior turbinated body must be ascribed the most important function of the nose. Hence one may say that to remove this structure *in toto*, for the sake of restoring nasal respiration, must be paradoxical in the extreme, seeing that, from the physiological point of view, little or nothing can be gained thereby.

For a last word, let me repeat that although it is frequently necessary to remove hypertrophied portions of the mucous membrane from both posterior and anterior extremities of the inferior turbinal, I have never yet seen a case where one could dream of gaining anything by the total ablation of this important structure.

Dr. Lincoln (New York) was agreed as to the advisability of removing as little of the bone as possible. When something more was required than galvano-cautery, ignipuncture, or the snaring of hypertrophied masses, he employed the surgical trephine; or in other cases he dissected off the mucous membrane, and cut off the edge of the bone with bone scissors. He did not recommend the knifeshare, as he thought it an inaccurate instrument.

Dr. Bryson Delavan (New York) was of opinion that the use of the so-called "spokeshave" was quite inadmissible in nasal surgery; we already had more accurate and safer methods, and he would like to hear the ultimate history of cases of complete removal. The desideratum was the maximum of relief with the minimum of destruction.

Mr. Carmalt Jones contributed some remarks on the after-effects of turbinotomy. It had been done first to relieve tinnitus aurium, and that sympton had been relieved in sixty per cent. Mouth breathing had been cured, the sense of smell improved, and anæmia had disappeared. In children inability to suck had been cured. There was always hemorrhage, but it was generally easily controlled, and secondary hemorrhage was rare. Suppuration in the ear occurred rarely. No death had followed the operation.

Mr. Lennox Browne thought that it was wiser to treat the cases for which turbinotomy was advocated by milder means, and in children especially he would never perform it. He suggested that many of the cases of catarrh for which it was performed were really cases of Tornwaldt's disease. He emphasized the fact that spurs or septal deviations were present in most cases of hypertrophic rhinitis, and required treatment.

Dr. Daly (Pittsburg) had removed turbinates in children with the happiest results, but agreed that it was rarely required. It was necessary to remove so much of the turbinates as would secure free breathing—any more was wrong.

Dr. Charles Warden was of opinion that attention to the septum would often obviate the necessity of operating on the turbinal bodies.

Dr. Permewan, like Drs. Delavan and MacDonald, objected to the word "spokeshave." It suggested operating on inanimate structures —an idea which dominated many rhinologists. He thought the complete operation was very rarely required, and was pleased to see the conservative spirit in nasal surgery more marked than at Bristol in 1894.

DISCUSSION ON THE SIGNIFICANCE OF LARYNGEAL PARALYSIS.

This was opened by Dr. Daly (Pittsburg), who said that paralysis of the laryngeal muscles might be due to lesions in the brain, the nerve nuclei or the nerve trunks, or to hysteria. There had been shown to be a cortical centre in the frontal operculum, apparently better differentiated on the right than on the left side. Cortical paralysis were rare, but depended on hemorrhage, softening or inflammation. Nuclear paralysis occurred mostly in chronic degeneration of the nervous centres. Trunk paralysis was much more common than the others, and it was due to pressure on or injury to the nerves, or to a neuritis—*e.g.*, the neuritis caused by diphtheria. Hysterical paralysis was often bilateral, but it might be unilateral, and might be combined with contracture of opponents. The question as to the cause of abductor paralysis was still unsettled, but he was inclined to agree with the view of Bosworth that, though pressure on the recurrent nerve might cause it, there is also present in these cases some pathological condition in the medulla.

Mr. Lennox Browne remarked that diphtherial paralysis was much more common in adults than in children. In right recurrent paralysis, as Mandl had indicated, there was generally apical mischief, pulmonary or pleural. As to hysterical aphonia, he thought it was often a premonition of structural change in the brain.

Dr. Shurley (Detroit) said that the fact had been established that there were two centres in the medulla and brain, respectively, one presiding over the automatic, the other over the voluntary movement of the larynx. As to so-called hysterical paralysis, the diagnosis and the prognosis was often most perplexing, and such cases were really often due to actual brain disease.

Dr. Delavan (New York) said that in right recurrent paralysis apical disease could seldom be demonstrated by physical examination, but was often seen *post mortem*. He had reported two cases of right recurrent paralysis, apparently caused by intralaryngeal diphtheria.

Dr. Permewan was of opinion that the most frequent cause of

organic laryngeal paralysis was syphilis, either from the direct effect of gummatous deposit, or by its inducing nuclear or neuritic disease. Bilateral paralysis was generally due to central disease, but he had seen a case due to pressure on both recurrents. He believed in the existence of hysterical paralysis, but it was important to distinguish these cases from those in which aphonia was only one symptom of complete paralysis.

DISCUSSION ON THE ULTIMATE RESULTS OF OPERATIONS ON THE MASTOID IN SUPPURATIVE EAR DISEASE.

This was opened by Dr. Buller (Montreal), who said that there were two classes of cases requiring operation on the mastoid.

First, cases of purulent infiltration, occurring generally in the course of acute purulent disease of the middle ear, and more often in adults than in children, without actual death of the bone.

Secondly, cases of more chronic character, in which there was also caries or necrosis of more or less of the temporal bone.

The first class of cases invariably, in his experience, did well after operation, and hearing often completely recovered. The second class were more uncertain in result: it depended on the extent and amount of bone disease, and in operating it was most important to remove the whole of the diseased bone, care being taken not to injure important structures, of which the chief was the facial nerve. Of these cases the most unfavorable were those due to strumous disease. He emphasized the fact that mastoid operations, far from being of a trivial character, often required the greatest surgical skill for their thorough performance.

Dr. A. H. Buck (New York) divided cases into acute and chronic. The former nearly all did well. Prognosis in the latter depended on the thoroughness with which all diseased bone was removed. Bone of a high degree of vascularity, and in which there was stasis, should be removed, and granulation tissue in the pneumatic cells showed that the structure of them was diseased. It was important to have a large enough field of operation and a good light.

Dr. Clarence Blake said that the same rule obtained in mastoid operation as in all other surgical procedures—namely, to remove all inflamed tissue which is presumably incompetent of recovery. He often secured primary union of the external wound by allowing the cavity to fill with blood-clot and suturing the wound.

Dr. Ward Cousins said that the object of these operations was to remove diseased tissues and provide drainage, and the removal of large portions of the cortex of the mastoid was often a good procedure. He had never operated on a case in which he considered it advisable to close immediately the mastoid wound.

Dr. Graham Bacon remarked that temperature did not always fall immediately after operation; but one need not be discouraged by that. He believed that intracranial complication would be often found if carefully looked for.

Mr. Hugh E. Jones confined his remarks to chronic cases, and he had always performed the Stacke-Schwartze operation. No fatal result had occurred: facial paralysis had occurred four times, but two of these recovered completely. To avoid injuring the facial nerve, it was very important to have free opening and a good light. As regards hearing, the majority had been definitely and some greatly improved, though the improvement sometimes disappeared as the wound cicatrized. Pain was always relieved, and the discharge had in most cases practically stopped. It was not to be expected, however, or desired, that a cavity lined with mucous membrane should become entirely dry.

Papers were read on the following subjects:—

A Contribution to the Study of the Anatomy of the Fronto-Ethmoidal Region, by T. H. Bryan, of Washington.

The author described the fronto-ethmoidal cells which lie between the frontal sinus and the ethmoidal cells proper, and which are often affected in disease of the frontal sinus. The relation also of the infundibulum to the maxillary antrum was of much importance. Instead of terminating in the meatus, the infundibulum in many cases opened right in the foramen of the antrum, and thus inflammatory products were directed into the antrum from the frontal sinus.

The Relation of Nasal Disease to Pulmonary Tuberculosis, by E. Fletcher Ingalls, of Chicago.

This was an elaborate statistical inquiry based on more than fourteen thousand cases. The results seemed to show that instead of predisposing to pulmonary tuberculosis, nasal catarrh, if it has any influence, appears to prevent it. This antagonism was not surprising in view of the fact of the occurrence of hyperæmic conditions in nasal disease, and of profound anæmia in tuberculosis. The only possible exception may be found in atrophic rhinitis, though in this disease the occurrence of tuberculosis may only be a coincident effect of the general lowering of nutrition and health.

The Physiological and Pathological Relations between the Nose and the Sexual Apparatus, by J. N. Mackenzie, of Baltimore.

This relation was shown physiologically by the occurrence of nasal symptoms synchronously with menstruation, the occurrence of vicarious

nasal menstruation, the nasal phenomena which accompany sexual excitement, and the occasional dependence of genito-urinary irritation on affections of the nasal passages. Pathologically it is shown by the aggravation of nasal affections during menstrual periods, the production of nasal catarrh by excessive sexual indulgence and by masturbation, and the occurrence of cases of nasal disease which resist treatment until co-existing disease of the generative organs has been cured.

The paper was illustrated by a wealth of classical learning which it is impossible to reproduce.

The Correction of Nasal Deformities by Subcutaneous Operations, by John O. Roe, of Rochester, New York.

The author pointed out that the great object to attain in operating on nasal deformities was to restore symmetry. To do this and to avoid external wounds it was best to operate from the interior of the nose. It was necessary to secure complete antisepsis, to study the plan of the operation with great care, and to follow a painstaking course of after-treatment. Illustrations of many excellent results were shown.

Recent Progress in the Surgical Treatment of Malignant Disease of the Larynx, by Bryson Delavan, of New York.

After a review of the recent work of Sendziak, Semon, Butlin and others, the author proceeded to discuss many points of the highest importance.

The early diagnosis of malignancy was essential, but was difficult. Microscopical appearances were sometimes misleading, as was also evidence derived from the position of the growth and the degree of mobility of the cords.

The question of preliminary tracheotomy was one of great moment. The author concluded that it was necessary, and, from various considerations, should be done not less than ten days before the major operation. In this way there was less shock, the patient got used to the tracheotomy tube before the serious operation on the larynx, and the thyrotomy was rendered easier. So, too, there was less risk of septic pneumonia, and the patient's condition improved after the tracheotomy, relieving him, as it did, from dyspnœa and imperfect aeration of the blood. The operation ought not to be undertaken except by an operator skilled in surgery, as it would otherwise fall into discredit.

Chronic Interarytenoid Laryngitis, by Price-Brown, of Toronto.

The author described five cases of chronic laryngitis in which the swelling was limited to the commissure. He raised the question as

to whether they were a distinct type of disease, or whether they were to be classed as pachydermia on the one hand, and tubercular laryngitis on the other.

A Case of Foreign Body (Metallic Shoehorn) removed from the Larynx by Thyrotomy, by C. H. Knight, of New York.

This was a report of a case in which attempts had been unsuccessfully made to remove the foreign body by the aid of laryngoscopy, and by Kirstein's method of autoscopy. Thyrotomy was done six weeks after the impaction of the shoehorn—which caused no symptoms but aphonia—and the foreign body removed. Aphonia lasted some weeks after the operation, but eventually quite disappeared. Only the lower half of the thyroid cartilage was divided, together with three rings of the trachea.

Acute Syphilitic Stenosis of the Larynx; Intubation; Recovery, by J. O'Dwyer.

In a patient with acute œdema in the course of tertiary syphilis, O'Dwyer inserted a large intubation tube seven-eighths of an inch in diameter at the head, and allowed it to remain for ten days, when the obstructive symptoms quite disappeared. Intubation was more difficult in the adult than the child, but it may be done in some cases by the aid of the mirror. In many cases of phlegmonous inflammation the mouth could not be opened wide enough to allow the introduction of the mirror.

The Non-Operative Treatment of Chronic Suppurative Disease of the Antrum and Vault of the Tympanum, by Albert H. Buck, of New York.

While agreeing in the necessity of mastoid operations in many cases, there were still many in which a patient course of antiseptic treatment was sufficient, especially in private cases. This treatment consisted in removal of all *débris*, and of the careful disinfection of the tympanum by injection of hydrogen peroxide. Solutions of this drug both acted chemically, and also, by effervescing in contact with the decomposing material, mechanically removed the secretions.

The Operative Treatment of Mastoid Disease, by Clarence J. Blake, of Boston.

The author gave the result of thirty-six consecutive cases of mastoid operation during three months' service at the Massachusetts Eye and Ear Infirmary. He classed them under five heads:

1. Those which healed by first intention, the walls of the mastoid

being left intact and the cavity allowed to fill with blood. There were five of these, all acute and all in adults, and they all completely recovered.

2. Eighteen cases which healed slowly by granulation, the walls of the mastoid being left intact. Ten acute cases did well, and of eight chronic cases four were well three months after operating, and four were still under treatment.

3. Nine cases in which the dura mater was exposed. Six acute and three chronic. Of the acute cases one died of meningitis, and one of measles; one was well in three weeks and one in five, and two were at present convalescent in the out-patient department. Three chronic cases were still under treatment.

4. Three cases of extra-dural abscess, all of which were discharged well within six weeks of the operation.

5. Two cases of cerebral abscess, both of which recovered.

A Case of Mastoid Disease with Sinus Thrombosis; Evacuation of Sinus and Ligature of Internal Jugular Vein; Recovery, by F. Buller, of Montreal.

This was a report of a typical case, which recovered quickly after operation.

Phosphor Necrosis of the Temporal Bone, by H. D. Würdemann, of Milwaukee.

A man, working in a match factory, contracted necrosis of the jaw; later on there was pain in the mastoid, and a sinus was found in the posterior wall of the meatus. The mastoid was operated on, but two years afterward the caries still persisted, and great sclerosis of bone had taken place. There seemed to be no doubt of the causation in this case.

Some Points in Anatomy which have a Practical Bearing Upon Operations on the Temporal Bone in Diseases of the Ear, by Dr. Morse, of Boston.

This paper, illustrated by specimens, photographs, and diagrams, gave a comparative account of the dangers of the Schwartze and Stacke operations respectively. It was pointed out that in the Stacke operation there was risk of injuring the lateral sinus, the facial nerve, the stapes, tendon of the stapedius muscle, and the horizontal semicircular canal. The Schwartze method was therefore to be preferred where possible, but in some cases the groove of the sinus came so far forward that there was absolutely no antrum, and in these the Schwartze operation was impossible.

Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose and Ear, by W. Jobson Horne and Macleod Yearsley.

The authors found that eucaine was a satisfactory and safe substitute for cocaine. For examinations, a four per cent. solution was enough; and for operations, an eight per cent. to ten per cent. It must be applied directly after wiping away all mucous and *débris*. Anæsthesia lasted fifteen to twenty minutes, and there were never any toxic effects from the drug.

"WRINKLES."

Prof. Gibbs, of the University of Michigan, used to tell us to look out for "wrinkles."

We find them everywhere, and when filed away in our mental store-room for convenient reference, when least expected, we find them bridging over a disagreeable place or making a seeming failure a success.

The following "wrinkle" many may have tried:

The application of an eight per cent silver nitrate solution to the stump of an amputated tonsil. The eschar formed removes all soreness, chance of infection, stops bleeding and makes the patient happy.

Would it not be a good idea, Mr. Editor, to start a "Wrinkle Column" in your most valuable LARYNGOSCOPE? We all have a few "wrinkles" which would certainly benefit the general practitioner as well as the specialist.

J. A. PRATT, M.D.,
Aurora, Ill.

NEWS ITEMS.

British Laryngological, Rhinological and Otological Association.

At a meeting of the British Laryngological, Rhinological and Otological Association, July 16th, 1897, the following officers were elected for the ensuing year: President, Dr. Dundas Grant; Vice-Presidents, Mr. F. Marsh, Mr. G. C. Wilkin, Dr. J. Davidson; Council, Dr. W. Milligan, Dr. A. B. Kelly, Mr. V. H. Wyatt Wingrave, Dr. W. Hill, Mr. P. Jakins, Dr. H. Woods, Mr. Lake; Hon. Treasurer, Dr. MacNeil Whistler; Hon. Secretaries, Mr. St. George Reid and Dr. F. Potter.

Italian Society of Laryngology, Otology and Rhinology.

The third biennial meeting of the Italian Society of Laryngology, Otology and Rhinology will be held in Rome, commencing on October 28th. The subjects for the set discussions are: The Value of Autoscopy in the Diagnosis and Treatment of Laryngeal Affections; Adenoid Vegetations in Italy; Physiology of the Middle Ear. The President of the association is Dr. V. Grazzi and the Secretary Dr. A. Fasano, of Naples.

The Library of Sir Morell Mackenzie has been advertised for sale in a London auction room. Besides a large number of general works there are many recognized authorities on his specialties. Among his own contributions to medical literature there were many copies of his "Growths in the Larynx" and "The Laryngoscope," both published in 1871, also of "Leprosy of the Air Passages."

Removals.

Dr. G. Melville Black has removed to the Denison Building, 14th and Stout sts., Denver, Colo.

Dr. T. E. Murrell has removed to Tucson, Ariz.

A New Post-Graduate School.

The Chicago, Eye, Ear, Nose and Throat College is the latest aspirant for honors in the field of post-graduate schools. The faculty includes men of excellent standing, whose active interest in this institution bespeaks for it a successful career. The new school is located in the Trude Building.

Dr. W. A. Shoemaker.

Cards have been received announcing the approaching nuptials of Dr. W. A. Shoemaker of St. Louis and Miss Nellie Maxon. The marriage takes place Nov. 16th. The LARYNGOSCOPE tenders heartiest congratulations.

A Second Edition.

We note with pleasure that the popularity and ready sale of the excellent work of our esteemed associate, Dr. Seth Scott Bishop, on the ear, nose and throat, has exhausted the large first edition of the volume. A second edition is announced.

LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary meeting, Wednesday, November 10th, 1897.

The following cases, specimens and instruments were presented:

Case 1. New Tracheotomy Tube, for permanent use. Introduced by Sir Felix Semon.

Case 2. Dr. James Donelar. Syringe for making submucous injections of Guaiacol in Laryngeal Tuberculosis.

Case 3. Dr. J. B. Ball: Fibro-sarcoma of the Nasal Septum; patient and specimen.

Case 4. Mr. W. R. H. Stewart: Growths at base of Tongue.

Case 5. Mr. Morley Agar: Tumor of the Tongue; patient and specimen.

Case 6. Dr. J. W. Bond: Boy with Naso-pharyngeal Tumor.

Case 7. Mr. W. G. Spencer: Separation of Old-standing adhesion of Soft Palate to Pharynx.

Case 8. Dr. William Hill: Specimen showing Papilloma growing from the surface of a faucial Tonsil.

Case 9. Mr. Macleod Yearsley: Ulceration of Left Tonsil, Fauces and Soft Palate in a man aged seventy; probably malignant.

Case 10. Dr. Jobson Horne: Cyst of the Epiglottis.

Case 11. Dr. William Hill: Case of Lupus of the Larynx, etc.

Case 12. Dr. Scanes Spicer: Case of Paralysis of Right Vocal Cord, Palate and Pharynx in a man aged seventy-two, probably due to lesion of nerves high up in neck.

Case 13. Mr. E. W. Roughton: Laryngeal Tumor; a case for diagnosis.

Case 14. Dr. H. Tilley: Case of Chronic Hypertrophic Laryngitis simulating Malignant Disease.

BOOKS AND PAMPHLETS RECEIVED.

"Transactions of the American Otological Association," Vol. VI, Part IV. Proceedings of the Thirtieth Annual Meeting. Published by the Society. *Mercury Publishing Co.*, New Bedford, Mass., 1897.

"A Clinical Study of Seven Hundred and One Cases of Naso-Pharyngeal Adenoids, Observed in Two Thousand Dispensary Cases." By H. Arrowsmith, Brooklyn. Reprint, *N. Y. Med. Journ.*, Aug. 28, 1897.

"International Reports of Schools for the Deaf." Circular of Information, No. 4. Volta Bureau, Washington, D. C.

"A New Nebulizing Device." By Edwin Pynchon, Chicago. Reprint, *Annals O. R. and L.*, May, 1897.

"Physicians' Office Day Book." Designed by Dr. C. Henri Leonard. The Illustrated Medical Journal Co., Detroit, Mich. An excellent daily patients' record book for office practice. Price, $2.00.

"About Children." A series of Lectures given to the Nurses in the Training School of the Cleveland General Hospital. By Samuel W. Kelley, Cleveland. The Medical Gazette Publishing Company, 1897.

"Notes on the Etiology of Inflammation of the Accessory Sinuses of the Nose." By W. T. Howard and J. M. Ingersoll, of Cleveland, O. Reprint, *The Medical News*, Sept. 25, 1897.

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Contains the Essential Elements of the Animal Organization—Potash and Lime;

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It Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has Gained a Wide Reputation, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases.

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The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, ***finds that no two of them are identical,*** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, ***in the property of retaining the strychnine in solution,*** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. ***Fellows.***"

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

Mr. FELLOWS, 48 Vesey Street, New York.

A BLOOD FOOD.

It is one thing to employ a remedy on the claim of others that it will do good; that is **empirical practice;** but the very opposite is to prescribe a product which has been proved by physiological and clinical tests to do a certain thing: that is **the scientific application** of therapeutic agents.

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